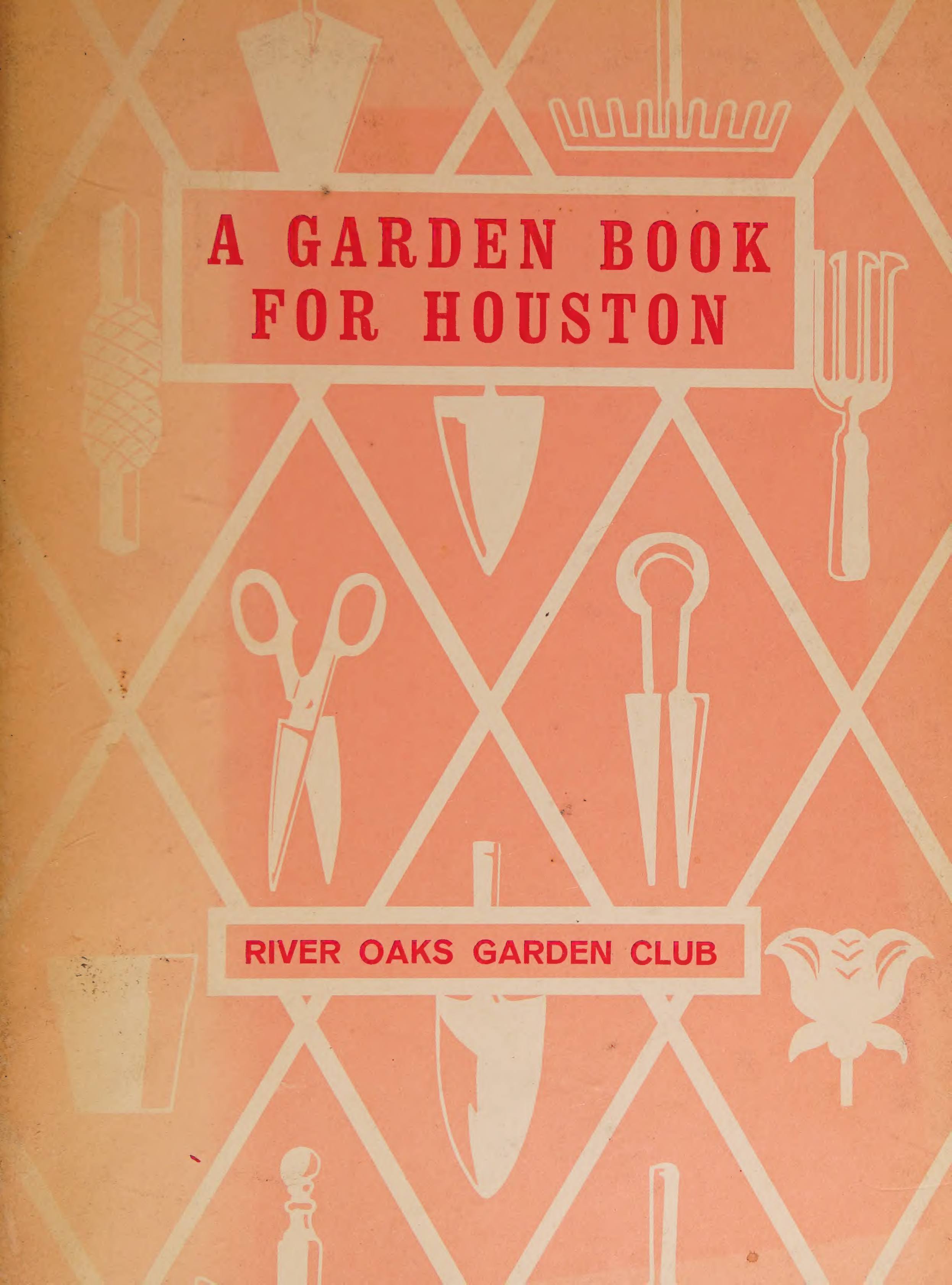

A GARDEN BOOK FOR HOUSTON

RIVER OAKS GARDEN CLUB

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A GARDEN BOOK

FOR HOUSTON

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PUBLISHED BY

RIVER OAKS GARDEN CLUB

To stimulate the knowledge
and love of gardening.

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TABLE OF CONTENTS

Page

FOREWORD 7

THE CIRCLE OF THE YEAR AND COLOR CHART FOR GARDENERS 9

DESIGN IN THE GARDEN 43

SOILS AND SOIL IMPROVEMENT 43

DRAINAGE 47

WATERING 47

LAWNS 48

TREES 51

FRUIT TREES AND FRUITS 55

CONIFEROUS EVERGREENS 57

HEDGES 59

SHRUBS 60

GRAY-LEAVED PLANTS 62

VINES 62

GROUND COVERS 64

AZALEAS 65

CAMELLIAS 73

ROSES 79

BULBS 86

GARDEN FLOWERS 96

COLOR IN THE GARDEN 98

THE SHADED GARDEN 99

THE FRAGRANT GARDEN 102

THE TROPICAL GARDEN 104

THE INDOOR GARDEN 108

THE VEGETABLE GARDEN 113

PROPAGATION 114

PRUNING 120

WINTER PROTECTION 122

DISEASES AND PESTS 124

PLANT NOMENCLATURE 128

PLANTING CHARTS 130

CONCLUSION 155

LIST OF ILLUSTRATIONS 156

INDEX 157

ALL photographs were taken in private gardens in Houston, Texas, except the pictures of the City Hall Park (page 115) and the entrance to the River Oaks Garden Club Forum of Civics with its model gardens. Photographer: Mrs. Louis A. Stevenson.

ALTHOUGH published primarily for Houston and Harris County distribution, it is hoped this book will prove equally serviceable to amateur gardeners in the following Texas counties:

Aransas
Austin
Bastrop
Bee
Brazoria
Brazos
Burleson
Caldwell
Calhoun
Chambers
Colorado
Dewitt
Fayette
Fort Bend
Galveston
Goliad
Gonzales
Grimes
Guadalupe
Hardin
Jackson
Jasper
Jefferson
Jim Wells
Karnes
Lavaca
Lee
Liberty
Live Oak
Matagorda
Montgomery
Newton
Nueces
Orange
Polk
Refugio
San Jacinto
San Patricio
Tyler
Victoria
Walker
Waller
Washington
Wharton
Wilson

and in the Gulf Coast area.

THE planting and conservation of wild flowers and native plants will give year-round color and beauty throughout this area.

Foreword

THROUGHOUT the greater part of the United States there is but one sowing season—the Spring. In Houston, however, with its semi-tropical climate, its moist air and few severe extremes of temperature, every month is a growing one. Many plants found elsewhere only in greenhouses, flourish here luxuriantly out of doors. The majority of catalogues, directions on seed packets, and instructions in most garden publications do not apply usefully to this part of the South. For many years, therefore, Houston gardeners hoped that a garden book would some day be published for this section of the Gulf Coast country.

It was to meet this need, at least in part, that "A Garden Book for Houston" was first published in 1929 by the Forum of Civics, sponsored and directed by the late Will C. Hogg. Through the generosity of the Hogg family, the copyrights were given to the River Oaks Garden Club in 1944.

The original intent of Mr. Hogg was to encourage everyone throughout the city to plant and beautify Houston. His main concern was that the book be simple and clear, a practical guide book for all those who love the growing of green things.

Grateful acknowledgment is made to Mrs. Cleveland Sewall and the late Mrs. Card G. Elliot, who so willingly gathered the information and assisted in the compiling and editing of the original book in 1929; to Mr. Edward Teas and Mrs. Cleveland Sewall, who compiled the Color Chart for Gardeners; and to Mrs. Allen B. Hannay for the first revision in 1950 of "A Garden Book for Houston."

For the 1962 revision, grateful acknowledgment is made to Mr. J. M. Stroud for valuable information on the culture of roses; to Mr. and Mrs. John D. Marr for detailed instructions on the planting and care of azaleas and camellias; to Mr. B. Y. Morrison and Mr. Lee Marsters for excellent horticultural and editorial advice; to the many amateur and professional gardeners and horticulturists whose aid has been invaluable; and to those members of the Houston garden clubs whose experience and advice have been especially helpful.

This edition of "A Garden Book for Houston" has been compiled and edited by a committee composed of Mrs. Birdsall Briscoe, Chairman, Mrs. Ray L. Dudley, Mrs. Allen W. Hamill, Jr., Mrs. Hal Houseman, Mrs. Louis A. Stevenson, Mrs. Gail Borden Tennant, and Mrs. Wesley West.

The River Oaks Garden Club, in dedicating the revised editions to the late Will C. Hogg, desires to pass on to every reader the credo of this great Houstonian:

"A beautiful city makes better citizens."

TO

The Gardeners of Houston

To those who love a Garden,
The awe of Growing Things,
A misty haze at dawn,
At night the whir of wings—

To those who love the fragrance
That drifts across the dew,
The creeping, gentle coolness
That rests one through and through—

To those who sense the mystery
Of Death that brings forth Life—
Who knows the love of Gardens
Can calm and still all strife.

—MARY MALONE ELLIOT

The Circle of the Year
and
Color Chart for Gardeners

Give fools their gold and knaves their power
Let fortune's bubbles rise and fall;
Who sows a field or trains a flower
Or plants a tree is more than all.
—*Whittier*

January

The Night is Mother of the Day,
The Winter of the Spring.
—*Whittier*

SEEDS *which may now be sown in flats (f) or open ground (o)*

Ageratum, *f*
Alyssum, Sweet, *f* or *o*
Arctotis, *f* or *o*
Babysbreath, *f* or *o*
Blanketflower, *f* or *o*
Bluebonnet, *o*
Browallia, *f*
Calendula, *f*
Candytuft, *o*
Chinese Forget-me-not, *f*
Cleome, *o*
Coreopsis, *f* or *o*
Cornflower, *f* or *o*
Daisy, African Golden, *f* or *o*
Feverfew, *f* or *o*
Forget-me-not, *f* or *o*
Four-o'clock, *o*
Gayfeather, *o*
Gerbera, *f*
Godetia, *o*
Hollyhock, *f*
Larkspur, *o*
Lobelia, *f*
Lupine, *o*
Mallow, *f*
Nicotiana, *f*
Petunia, *f* or *o*
Phlox, Drummond, *o*
Pinks (Dianthus) *f* or *o*
Poppy, Shirley, *o*
Queen Anne's-lace, *o*
Salpiglossis, *f* or *o*
Salvia, Blue, *f* or *o*
Scabiosa, *f* or *o*
Snapdragon, *f* or *o*
Stock, *f* or *o*
Strawflower, *f* or *o*
Sweet Pea, Early, *o*
  Late, *o*
Sweet William, *f* or *o*
Verbena, *f* or *o*

PLANTS *which may now be placed in the open ground*

Alyssum, Sweet
Arctotis
Bluebonnet
Calendula
Candytuft
Coreopsis
Cornflower
Daisy, English
  Michaelmas
  Shasta
Delphinium
Forget-me-not
Four-o'clock
Gerbera
Hollyhock
Honeysuckle
Larkspur
Lupine
Nicotiana
Pansy
Petunia
Phlox, Drummond
  Louisiana
  Perennial
Physostegia
Pinks (Dianthus)
Queen Anne's-lace
Roses
Salvia
Shrimp Plant
Shrubs
Snapdragon
Stock
Sweet William
Trees
Verbena
Viola
Violet
Wallflower

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

Agapanthus
Allium
Alpinia (Ginger)
Alstroemeria
Amarcrinum
Amaryllis
Anemone
Blackberry Lily
Canna
Calla
Chlidanthus
Cooperia (Rain Lily)
Crinum
Gladiolus
Hedychium (Butterfly Lily)
Hemerocallis (Daylily)
Hyacinth, Dutch
Iris, Bulbous
  Louisiana
Ismene
Kniphofia (Torch Lily)
Liatris
Lily-of-the-Valley (pots)
Liriope
Marica (Walking Iris)
Montbretia
Ornithogalum
Oxalis
Ranunculus
Scilla
Sprekelia
Tigridia
Tulbaghia
Zephyranthes (Fairy Lily)

VEGETABLES *which may now be sown in flats (f) or open ground (o)*

Asparagus roots, *o*
Beets, *o*
Brussels sprouts, *f*
Cabbage, *f*
Cantaloupe, *f*
Cauliflower, *f*
Celery, *o*
Celtuce, *o*
Chard, Swiss, *o*
Chervil, *o*
Chicory (French endive), *o*
Chinese Cabbage, *o*
Collards, *f*
Cos (Romaine lettuce), *o*
Cress, *o*
Cucumber, *f*
Eggplant, *f*
Endive, *o*
Horseradish roots, *o*
Kale, *o*
Kohlrabi, *o*
Lettuce, *o*
Mustard, *o*
Onion, seeds, sets, plants
Parsley, *o*
Parsnips, *o*
Peas, English, *o*
Pepper plants, *f*
Peppers, *f*
Potatoes, Irish, *o*
Radish, *o*
Rhubarb chard, *o*
Rhubarb roots, *o*
Roquette, *o*
Salsify, *o*
Spinach, *o*
Squash, *f*
Tendergreens, *f*
Tomatoes, *f*
Turnips, *o*

Azaleas: Plants may be moved. Keep moist to lessen cold weather damage.

Camellias: Plants may be moved. Pick up and burn all old blooms.

Cultivation: Changes in design may now be made, new beds dug and old ones rebuilt. Correct defects in drainage.

Pests: Spray plants if scale is evident and temperature above 35°. Spray fruit trees with dormant spray.

Prune: Fruit trees in advance of new growth. Remove dead wood from trees and shrubs before spring buds swell.

Roses: Plant bare-rooted. Annual pruning should be between middle of January and the middle of February, just before the spring buds break. In the old beds, to prevent the later appearance of disease, gather all dead leaves from bush and ground and burn.

Transplanting: January is one of the best months to transplant woody plants, both evergreen and deciduous, especially trees.

PLANTS WHICH BLOOM IN JANUARY

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Alyssum, Sweet, *a*
- Arctotis, *a*
- Babysbreath, *a*
- Calla Lily, *b*
- Camellia, Japonica, *s e*
  - Sasanqua, *s e*
- Chinese Forget-me-not, *p*
- Daisy, English, *a*
- Gerbera, *p*
- Honeysuckle, fragrantissima, *s d*
- Iris, unguicularis, *b*
- Jasmine, pubescens, *v e*
- Narcissus, paper white, *b*
- Oxalis, *b*
- Pansy, *a*
- Pinks, *a* and *bn*
- Quince, Japanese Flowering, *s d*
- Roses
- Spirea, prunifolia, *s d*
  - thunbergi, *s d*
- Sweet Olive, *s e*
- Sweet Pea, early, *a*
- Viburnum, suspensum, *s e*
- Viola, *a*

PINK AND ROSE

- Camellia, Japonica, *s e*
- Candytuft, *a*
- Chinese Forget-me-not, *a*
- Daisy, English, *a*
- Forget-me-not, *p*
- Gerbera, *p*
- Magnolia, *s* or *t d*
- Oxalis, *b*
- Pinks, *a* or *bn*
- Quince, Japanese Flowering, *s d*
- Roses
- Sweet Pea, early, *a*

RED

- Bougainvillea, *v e*
- Camellia, Japonica, *s e*
- Daisy, English, *a*
- Gerbera, *p*
- Pansy, *a*
- Pinks, *a* or *bn*
- Poinsettia, *s d*
- Quince, Japanese Flowering, *s d*
- Roses
- Salvia, *a*
- Sweet Pea, early, *a*
- Turk's-cap, *s e*

YELLOW

- Calendula, *a*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Jasmine,
  - nudiflorum, *s d*
  - primrose, *s e*
- Narcissus, Soleil d'Or, *b*
- Oxalis, *b*
- Pansy, *a*
- Roses
- Sweet Pea, early, *a*
- Viola, *a*

ORANGE

- Bougainvillea, *v e*
- Calendula, *a*
- Calycanthus, floridus, *s d*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Pansy, *a*
- Roses

BLUE AND LAVENDER

- Candytuft, *a*
- Chinese Forget-me-not, *a*
- Forget-me-not, *p*
- Iris, unguicularis, *b*
- Lantana, *s d*
- Oxalis, *b*
- Pansy, *a*
- Pinks, *a* or *bn*
- Sweet Pea, early, *a*
- Viola, *a*

PURPLE

- Bougainvillea, *v e*
- Pansy, *a*
- Sweet Pea, early, *a*
- Viola, *a*
- Violet, *p*

February

> Late February days, and now at last,
> Might you have thought that Winter's
> woe was past;
> So fair the sky was and so soft the air.
> —*Morris*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Alyssum, Sweet, *f* or *o*
- Arctotis, *f* or *o*
- Babysbreath, *f* or *o*
- Blanketflower, *f* or *o*
- Browallia, *f*
- Calendula, *f*
- Calliopsis, *f* or *o*
- Candytuft, *o*
- Chinese Forget-me-not, *f*
- Cleome, *o*
- Coreopsis, *f* or *o*
- Cornflower, *f* or *o*
- Cosmos, Early, *f* or *o*
- Dahlia, Dwarf, *o*
- Daisy, African Golden, *f* or *o*
- Everlasting, *f* or *o*
- Feverfew, *f*
- Forget-me-not, *f* or *o*
- Four-o'clock, *o*
- Gayfeather, *o*
- Globe Amaranth, *f*
- Godetia, *o*
- Hollyhock, *f*
- Larkspur, *o*
- Lobelia, *f*
- Lupine, *o*
- Mallow, *f*
- Marigold, *o*
- Nasturtium, *o*
- Penstemon, *o*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Pinks (Dianthus), *f* or *o*
- Salpiglossis, *f* or *o*
- Salvia, Blue, *f* or *o*
  - Scarlet, *f* or *o*
- Scabiosa, *f* or *o*
- Snapdragon, *f* or *o*
- Stock, Dwarf, *f*
- Strawflower, *f* or *o*
- Sweet Pea, Early, *o*
  - Late, *o*
- Tobacco, Flowering, *f* or *o*

PLANTS *which may now be placed in the open ground*

- Ageratum
- Alyssum, Sweet
- Arctotis
- Bluebells
- Calendula
- Chinese Forget-me-not
- Columbine
- Coreopsis
- Cornflower
- Daisy, English
  - Michaelmas
  - Shasta
- Delphinium
- Forget-me-not
- Four-o'clock
- Gaillardia
- Gerbera
- Hollyhock
- Honeysuckle
- Larkspur
- Lupine
- Pansy
- Petunia
- Phlox, Creeping
  - Drummond
  - Louisiana
- Physostegia
- Pinks (Dianthus)
- Queen Anne's-lace
- Roses
- Salvia, Blue
- Scabiosa
- Shrimp Plant
- Shrubs
- Snapdragon
- Stock
- Sweet William
- Trees
- Verbena
- Viola
- Violet
- Wallflower

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Agapanthus
- Allium
- Alpinia (Ginger)
- Alstroemeria
- Amarcrinum
- Amaryllis
- Blackberry Lily
- Canna
- Chlidanthus
- Crinum
- Cooperia
- Dahlia
- Dietes
- Gladiolus
- Gloriosa (Climbing Lily)
- Habranthus
- Haemanthus
- Hedychium (Butterfly Lily)
- Hemerocallis
- Hymenocallis
- Iris, Japanese
  - Louisiana
- Ismene
- Kniphofia (Torch Lily)
- Liriope
- Marica
- Milla
- Montbretia
- Ornithogalum
- Oxalis
- Ranunculus
- Scilla
- Sisyrinchium
- Sprekelia
- Tigridia
- Tuberose
- Tulbaghia
- Zephyranthes

VEGETABLES *which may now be sown in flats (f) or open ground (o)*

- Artichoke tubers, *o*
- Asparagus roots, *o*
- Beans, Snap, *o*
  - Pole, *o*
  - Lima, *o*
- Beets, *o*
- Broccoli, *o*
- Brussels sprouts, *f*
- Cabbage, *f*
- Carrots, *o*
- Cantaloupe, *f*
- Cauliflower, *f*
- Celery, *o*
- Celtuce, *o*
- Chard, Swiss, *o*
- Chinese Cabbage, *o*
- Chives, *o*
- Collards, *f*
- Corn, sweet, *o*
- Cos, *o*
- Cress, *o*
- Cucumber, *f*
- Eggplant, *f*
- Endive, *o*
- Horseradish roots, *o*
- Jerusalem artichokes, *o*
- Kale, *o*
- Kohlrabi, *o*
- Lettuce, *o*
- Mirliton (Vegetable pear)
- Mustard, *o*
- Onions, seeds, sets, plants, *o*
- Parsley, *o*
- Parsnips, *o*
- Peas, English, *o*
- Pepper plants, *o*
- Pepper, *f*
- Potatoes, Irish, *o*
  - Sweet, *o*
- Radish, *o*
- Roquette, *o*
- Rhubarb roots, *o*
- Spinach, *o*
- Squash, *f*
- Tendergreens, *o*
- Tomatoes, *f*
- Turnips, *o*

AZALEAS: Plants may be moved.

BULBS: Summer flowering bulbs may be planted now. Gladioli every two weeks from January through May and from July through October for a succession of bloom.

CAMELLIAS: Pick up and burn all old blooms. Reproduce plants by grafting.

CUTTINGS: Most favorable month to set cuttings of hardwood shrubs, trees and vines.

FERTILIZE: St. Augustine lawns. Trees.

MAIDENHAIR: While this fern is dormant and thin, work into the soil a little bone meal. Portions may also be taken up, divided and reset. They will spread quickly.

PERENNIALS: Some varieties that have not already been divided may be separated and placed in new positions.

PESTS: If scale exists on roses and shrubs and they have not been sprayed as suggested in January, this should be done now.

PRUNING: Last chance for many shrubs. See list, page 122, otherwise much summer bloom will be destroyed.

ROSES: New roses should be planted not later than February. Check new leaves and buds for aphids. Annual pruning now if not previously done.

TRANSPLANTING: All hardy vines.

PLANTS WHICH BLOOM IN FEBRUARY

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Alyssum, Sweet, *a*
- Azalea, *s e*
- Calla Lily, *b*
- Camellia, Japonica, *s e*
- Candytuft, *a*
- Chinese Forget-me-not, *a*
- Cornflower, *a*
- Daisy, English, *a*
- Forget-me-not, *p*
- Gerbera, *p*
- Honeysuckle, fragrantissima, *s d*
- Hyacinth, Roman, *b*
- Iris, *b*
- Jasmine, pubescens, *v e*
- Narcissus, *b*
- Oxalis, *b*
- Pansy, *a*
- Pearlbush, exochorda, *s d*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a* and *bn*
- Quince, Japanese Flowering, *s d*
- Snowflake, *b*
- Spirea, prunifolia, *s d*
  - thunbergi, *s d*
- Stock, *a* and *bn*
- Sweet Olive, *s e*
- Sweet Pea, Early, *a*
- Verbena, *p*
- Viburnum, tinus, *s e*
  - suspensum, *s e*
- Viola, *a*
- Willow, Pussy, *s d*

PINK AND ROSE

- Azalea, *s e*
- California Poppy, *a*
- Camellia, Japonica, *s e*
- Candytuft, *a*
- Chinese Forget-me-not, *a*
- Cornflower, *a*
- Daisy, English, *a*
- Daphne, Winter, *s e*
- Forget-me-not, *p*
- Gerbera, *p*
- Honeysuckle,
  - morrowi, *s d*
  - tartarian, *s d*
- Hyacinth, *b*
- Iris, *b*
- Magnolia, *s* or *t d*
- Oxalis, *b*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a* and *bn*
- Quince, Japanese Flowering, *s d*
- Stock, *a* or *bn*
- Sweet Pea, Early, *a*
- Verbena, *p*

RED

- Azalea, *s e*
- Bougainvillea, *v e*
- California Poppy, *a*
- Camellia, Japonica, *s e*
- Candytuft, *a*
- Cornflower, *a*
- Daisy, English, *a*
- Gerbera, *p*
- Iris, *b*
- Pansy, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a* and *bn*
- Quince, Japanese Flowering, *s d*
- Stock, *a* or *bn*
- Sweet Pea, Early, *a*
- Verbena, *p*

YELLOW

- Calendula, *a*
- California Poppy, *a*
- Daffodil, *b*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Hyacinth, *b*
- Iris, *b*
- Jasmine, Carolina,
  - native, *v e*
  - nudiflorum, *s d*
  - primrose, *s e*
- Oxalis, *b*
- Pansy, *a*
- Phlox, Drummond, *a*
- Stock, *a* and *bn*
- Sweet Pea, Early, *a*
- Viola, *a*
- Wallflower, *a*

ORANGE

- Calendula, *a*
- California Poppy, *a*
- Calycanthus, floridus, *s d*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Iris, *b*
- Pansy, *a*
- Wallflower, *a*

BLUE AND LAVENDER

- Azalea, *s e*
- Candytuft, *a*
- Chinese Forget-me-not, *a*
- Cornflower, *a*
- Forget-me-not, *p*
- Heather, Mediterranean, *s c*
- Hyacinth, *b*
- Iris, *b*
- Lantana, Weeping, *s d*
- Oxalis, *b*
- Pansy, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
  - Louisiana, *p*
- Pinks, *a* and *bn*
- Scilla, *b*
- Stock, *a* and *bn*
- Sweet Pea, Early, *a*
- Verbena, *p*
- Vinca, trailing, *v e*
- Viola, *a*

PURPLE

- Bougainvillea, *v e*
- Cornflower, *a*
- Hyacinth, *b*
- Iris, *b*
- Magnolia, Chinese, *s d*
- Pansy, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
- Stock, *a* and *bn*
- Sweet Pea, Early, *a*
- Verbena, *p*
- Viola, *a*
- Violet, *p*

March

> Spring in the world!
> And all things are made new!
> —*Hovey*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Ageratum, *f* or *o* after 15th
- Alyssum, Sweet, *f* or *o*
- Arctotis, *f* or *o*
- Balsam, Garden, *f* or *o*
  - Sultan, *f* or *o*
- Bells-of-Ireland, *f* or *o*
- Blanketflower, *f* or *o*
- Browallia, *o*
- Calliopsis, *f* or *o*
- Candytuft, *o*
- Castor Bean, *o*
- Chinese Forget-me-not, *f* or *o*
- Cleome, *o*
- Cockscomb, *f* or *o*
- Coral Vine, *f* or *o*
- Cosmos, Early, *f* or *o*
- Cypressvine, *o*
- Dahlia, Dwarf, *o*
- Daisy, African Golden, *o*
- Dusty Miller, *o*
- Feverfew, *f*
- Forget-me-not, *o*
- Four-o'clock, *o*
- Gayfeather, *o*
- Globe Amaranth, *f* or *o*
- Hollyhock, *f* or *o*
- Hyacinth Bean, *o*
- Immortelle, *o*
- Mallow, *f* or *o*
- Marigold, *o*
- Moonflower, *o*
- Morning-Glory, *o*
- Nasturtium, *o*
- Periwinkle, *f* or *o*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Portulaca, *o* after 15th
- Salpiglossis, *f* or *o*
- Salvia, Blue, *f* or *o*
  - Scarlet, *f* or *o*
- Scabiosa, *f* or *o*
- Sunflower, *o*
- Sweet Pea, Perennial, *o*
- Tithonia, *o*
- Tobacco, Flowering, *f* or *o*
- Torenia, *f*
- Verbena, *f* or *o*
- Zinnia, *f*

PLANTS *which may now be placed in the open ground*

- Ageratum
- Alyssum, Sweet
- Arctotis
- Balsam, Sultan, after 15th
- Blanketflower
- Bluebell
- Browallia
- Butterflyweed
- Calliopsis
- Calendula
- Chinese Forget-me-not
- Coleus
- Coral Vine
- Coreopsis
- Cornflower
- Cosmos, Klondyke
  - Late
- Dahlia, Dwarf
- Daisy, Michaelmas
  - Shasta
- Delphinium
- Dusty Miller
- Eranthemum
- Ferns
- Feverfew
- Forget-me-not
- Four-o'clock
- Geranium, after 15th
- Gerbera
- Hibiscus
- Honeysuckle
- Hydrangea
- Jasmine, Daybblooming
  - Nightblooming
- Lantana
- Larkspur
- Lemon Verbena
- Lobelia
- Lupine
- Lythrum
- Mallow
- Marigold, after 15th
- Mistflower
- Moonflower
- Pansy
- Periwinkle
- Petunia
- Physostegia
- Phlox, Perennial
  - Louisiana
- Plumbago
- Salvia
- Scabiosa
- Sedum
- Shrimp Plant
- Snapdragon
- Sweet Sultan
- Verbena
- Wallflower
- Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

Achimenes
Agapanthus
Alstroemeria
Allium
Alpinia
Amarcrinum
Amaryllis
Billbergia
Blackberry Lily
Caladium
Calla
Canna
Chlidanthus
Crinum
Dahlia
Dietes
Ginger Lily
Gladiolus
Gloriosa (Climbing Lily)
Habranthus
Haemanthus
Hedychium (Butterfly Lily)
Hemerocallis
Hymenocallis
Iris, Louisiana
Ismene
Kniphofia
Liriope
Marica
Montbretia
Sisyrinchium
Sprekelia
Strelitzia (pot)
Tigridia
Tuberose
Tulbaghia
Water Hyacinth
Water Lily
Zephyranthes

VEGETABLES *which may now be sown in flats (f) or open ground (o)*

Artichoke tubers, *o*
Asparagus roots, *o*
Beans, Lima, *o*
  Snap, *o*
Beets, *o*
Broccoli plants, *o*
Cabbage plants, *o*
Cantaloupe, *o*
Carrots, *o*
Cauliflower plants, *o*
Celery, *o*
Celtuce, *o*
Chard, Swiss, *o*
Chinese Cabbage, *o*
Chives, *o*
Collard plants, *o*
Corn, *o*
Corn Salad, *o*
Cress, *o*
Cucumber, *o*
Cushaw, *o*
Eggplant plants, *o*
Endive, *o*
Gourds, *o*
Horseradish roots, *o*
Kohlrabi, *o*
Leeks, *o*
Lettuce, *o*
Mirliton (Vegetable Pear)
Muskmelon, *o*
Mustard, *o*
Okra, *o*
Onion plants, *o*
Parsley, *o*
Peas, Blackeyed, *o*
  Crowder, *o*
  English, *o*
Pepper Plants, *o*
Potatoes, Irish, *o*
  Sweet, slips
Pumpkin, *o*
Radish, *o*
Rhubarb roots, *o*
Spinach, *o*
Spinach, New Zealand, *o*
Squash, *o*
Tendergreens, *o*
Tampala, *o*
Tomato plants, *o*
Turnip, *o*
Watermelon, *o*

AZALEAS: To avoid azalea petal blight, spray 2 or 3 times a week during blooming season, starting as soon as flowers begin to open. Fertilize immediately after blooming. Prune immediately after blooming. May be sheared to thicken plants for screen or hedge.

CAMELLIAS: Spray for tea scale. Fertilize lightly.

COLEUS: Start cuttings in damp sand.

CULTIVATION: Systematic surface cultivation of small bedding plants is essential to insure strong and rapid development.

FERTILIZE: All roses, shrubs and plants with quick acting fertilizer to stimulate rapid spring growth. Do not allow fertilizer to touch stems or leaves of any young plants or seedlings as it will cause them to scale or rot. Trees may be fertilized this month.

HYDRANGEAS: Give them shady locations—preferably north exposure—perfect drainage, and an abundance of peat moss or leaf mold in the soil. Mulch and water copiously after the plants are in leaf. The simplest method of making pink hydrangeas blue is to use one of the chemical blueing powders sold at Garden Shops.

MAIDENHAIR: A bed of this fern does splendidly on the north side of the house, or undertrees where protected from sun. When planting, pieces of well rotted bark or wood placed under the roots prove most helpful. Peat moss added to sandy loam is ideal, for maidenhair requires a loose, spongy soil, perfectly drained. Do not permit the beds to become dry, but keep pleasantly moist.

Pests: Watch for appearance of aphids on new growth; also, red spider and cut worm.

Plant: Semi-tropicals such as crotons and frangipani in containers.

Pruning: Finish pruning roses and dormant shrubs. Any plants damaged by a freeze may be cut back to green wood.

Tuberose: Remove bulblets from old bulbs and plant separately for future bloom or plant new bulbs now. Cover with two inches of soil.

PLANTS WHICH BLOOM IN MARCH

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

Almond, Flowering, *s d*
Alyssum, Sweet, *a*
Anemone, *b*
Arctotis, *a*
Azalea, *s d* and *e*
Babysbreath, *a*
Calla, *b*
Camellia, Japonica, *s e*
Candytuft, *a*
Cherry Laurel, *t* or *s e*
Chinese Forget-me-not, *a*
Cornflower, *a*
Daisy, English, *bn* and *p*
Dogwood, *t d*
Forget-me-not, *p*
Fringetree, *t d*
Gerbera, *p*
Godetia, *a*
Grape-hyacinth, *b*
Hawthorn, *t d*
Honeysuckle,
  fragrantissima, *s d*
  morrowi, *s d*
  tartarian, *s d*
Hyacinth, Dutch, *b*
Iris, *b*
Ixia, *b*
Jasmine, pubescens, *s e*
Larkspur, *a*
Milla, *b*
Nandina, *s e*
Narcissus, *b*
Oxalis, *b*
Pansy, *a*
Peach, Fruiting, *t d*
  Flowering, *t d*
Pear, *t d*
Petunia, *a*
Phlox, Drummond, *a*
Photinia, *s e*
Pinks, *a*, *bn* and *p*
Pittosporum, *s e*
Plums, *t d*
Poppies, *a*
Quince, Japanese Flowering, *s d*
Ranunculus, *b*
Redbud, *s* and *t d*
Roses
Scabiosa, *a*, *bn* and *p*
Snapdragon, *a*
Snowflake, *b*
Spirea, prunifolia, *s d*
  Reeves, *s d*
  Vanhoutte, *s d*
Stock, *a* or *bn*
Styrax, native, *s d*
Sweet Olive, *s e*
Sweet Pea, Early, *a*
Tulip, *b*
Verbena, *p*
Viburnum,
  native, *s d*
  sandankwa, *s e*
Viola, *a*
Weigela, *s d*
Wisteria, *v p d*

PINK AND ROSE

Almond, Flowering, *s d*
Anemone, *b*
Azalea, *s d* and *e*
California Poppy, *a*
Camellia, Japonica, *s e*
Candytuft, *a*
Chinese Forget-me-not, *a*
Cornflower, *a*
Daisy, English, *a*
Daphne, Rose, *s e*
  Winter, *s e*
Forget-me-not, *p*
Gerbera, *p*
Godetia, *a*
Honeysuckle,
  Belgian, *v* or *s e*
  heckrotti, *v p*
  morrowi, *s d*
  tartarian, *s d*
Hyacinth, Dutch, *b*
Iris, *b*
Larkspur, *a*
Mexican Buckeye, *t d*
Oxalis, *b*
Peach, Flowering, *t d*
  Fruiting, *t d*
Petunia, *a*
Phlox, Drummond, *a*
Pinks, *a*, *bn* and *p*
Plum, Flowering, *s d*
  Purple-leaf, *s d*
Poppies, *a* and *p*
Quince, Japanese Flowering, *s d*
Ranunculus, *b*
Redbud, *s* and *t d*
Roses
Scabiosa, *a*, *bn* and *p*
Snapdragon, *a*
Stock, *a* and *bn*
Sweet Pea, Early, *a*
Tulip, *b*
Verbena, *p*
Weigela, *s d*

YELLOW

Agarita, *s e*
Bignonia, *v* and *p e*
Calendula, *a*
California Poppy, *a*
Calla, *b*
Currant, Flowering, *s d*
Daffodil, *b*
Daisy, African Golden, *a*
Gerbera, *p*
Godetia, *a*
Huisache, *t d*
Hyacinth, Dutch, *b*
Iris, *b*
Jasmine, floridum, *s e*
  revolutum, *s e*
Jonquil, *b*
Oxalis, *b*
Pansy, *a*
Phlox, Drummond, *a*
Ranunculus, *b*
Roses
Scabiosa, *a*, *bn* and *p*
Snapdragon, *a*
Stock, *a* and *bn*
Sweet Pea, Early, *a*
Tulip, *b*
Viola, *a* and *p*
Wallflower, *a*

ORANGE

Azalea, *s d*
Bougainvillea, *v e*
Calendula, *a*
California Poppy, *a*
Daisy, African Golden, *a*
Gerbera, *p*
Iris, *b*
Pansy, *a*
Ranunculus, *b*
Roses
Snapdragon, *a*
Tulip, *b*
Wallflower, *a*

BLUE AND LAVENDER

Anemone, *b*
Azalea, *s d* and *e*
Candytuft, *a*
Chinaberry, *t d*
Chinese Forget-me-not, *a*

- Cornflower, *a*
- Delphinium, *a* or *p*
- Forget-me-not, *p*
- Godetia, *a*
- Grape-hyacinth, *b*
- Heather, Mediterranean, *s e*
- Hyacinth, Dutch, *b*
- Iris, *b*
- Laceflower, Blue, *a*
- Lantana, Weeping, *s d*
- Larkspur, *a*
- Laurel, Texas Mountain, *s* or *t e*
- Milla, *b*
- Oxalis, *b*
- Pansy, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
  - Louisiana, *p*
- Pinks, *a*, *bn* and *p*
- Poppies, *a*
- Ranunculus, *b*
- Scabiosa, *a*, *bn* and *p*
- Scilla, *b*
- Stock, *a* or *bn*
- Sweet Pea, Early, *a*
- Trachelium, *a*
- Tulip, *b*
- Verbena, *p*
- Vinca, Trailing, *v e*
- Viola, *a*
- Violet, *p*
- Wisteria, *v p*

PURPLE

- Bougainvillea, *v e*
- Cornflower, *a*
- Flag (Native Iris), *b*
- Anemone, *b*
- Hyacinth, Dutch, *b*
- Iris, *b*
- Larkspur, *a*
- Pansy, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
- Poppies, *a*
- Ranunculus, *b*
- Scabiosa, *a*, *bn* and *p*
- Stock, *a* and *bn*
- Sweet Pea, Early, *a*
- Tulip, *b*
- Verbena, *p*
- Viola, *a*
- Violet, *p*

April

> The uncertain glory of an April day!
> —*Shakespeare*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Amaranthus, *o*
- Ageratum, *f* or *o*
- Alyssum, Sweet, *f* or *o*
- Balsam, Garden, *f* or *o*
  - Sultan, *f* or *o*
- Blanketflower, *f* or *o*
- Castorbean, *o*
- Chinese Forget-me-not, *f* or *o*
- Cockscomb, *f* or *o*
- Coleus, *o*
- Coral Vine, *o*
- Cosmos, Klondyke, *o*
  - Late, *o*
- Cleome, *o*
- Cypressvine, *o*
- Dahlia, Dwarf, *o*
- Feverfew, *o*
- Four-o'clock, *o*
- Globe Amaranth, *o*
- Gourd, *o*
- Marigold, *o*
- Moonflower, *o*
- Morning-glory, *o*
- Nasturtium, *o*
- Periwinkle, *f* or *o*
- Petunia, *f* or *o*
- Portulaca, *o*
- Queen Anne's-lace, *o*
- Scabiosa, *o*
- Sunflower, *o*
- Sweet Pea, Perennial, *o*
- Tithonia, *o*
- Torenia, *f*
- Zinnia, *o*

PLANTS *which may now be placed in the open ground*

- Acalypha
- Ageratum
- Alternanthera
- Amaranth
- Aralia
- Balsam, Garden
  - Sultan
- Begonia, Bedding
- Blanketflower
- Bluebells
- Browallia
- Butterflyweed
- Calliopsis
- Canterbury Bells
- Chinese Forget-me-not
- Chrysanthemum
- Cockscomb
- Coral Vine
- Cosmos, Klondyke
  - Late
- Dahlia, Dwarf
- Dusty-Miller
- Eranthemum
- Feverfew
- Four-o'clock
- Geranium
- Gerbera
- Hibiscus
- Honeysuckle
- Jasmine, Dayblooming
  - Nightblooming
- Lantana
- Lemon-verbena
- Lythrum
- Mallow
- Marigold
- Mistflower
- Moonflower
- Periwinkle
- Petunia
- Phlox, Louisiana
  - Perennial
- Physostegia
- Plumbago
- Potatovine
- Queen Anne's-lace
- Salpiglossis
- Salvia
- Sedum
- Shrimp Plant
- Sweet Sultan
- Tobacco, Flowering
- Torenia
- Verbena
- Violet
- Wallflower
- Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Achimenes
- Agapanthus
- Alpinia (Ginger)
- Amarcrinum
- Amaryllis
- Billbergia
- Caladium
- Calla
- Canna
- Chlidanthus
- Crinum
- Dahlia
- Dietes
- Galtonia
- Ginger Lily
- Gladiolus
- Gloriosa (Climbing Lily)
- Haemanthus
- Hedychium (Butterfly Lily)
- Hemerocallis (Daylily)
- Hymenocallis (Spider Lily)
- Lachenalia (Pot)
- Liriope
- Lycoris
- Marica (Walking Iris)
- Montbretia
- Oxalis
- Sprekelia
- Tigridia
- Tuberose
- Tulbaghia
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Artichoke tubers
- Asparagus roots
- Beans, Lima
  - Pinto
  - Snap
- Beets
- Cabbage plants
- Cantaloupe
- Carrots
- Cauliflower
- Chard, Swiss
- Chives
- Celery
- Celtuce
- Collards
- Corn
- Cress
- Cucumber
- Cushaw
- Eggplant plants
- Herbs of all kinds
- Jerusalem artichokes
- Leeks
- Mirliton (Vegetable Pear)
- Mustard
- Parsley
- Parsnips
- Peanuts
- Peas, Blackeyed
  - Crowder
- Potatoes, Irish
  - Sweet, slips
- Pepper plants
- Pumpkin
- Radishes
- Shallots
- Spinach
- Spinach, New Zealand
- Squash
- Tampala
- Tendergreens
- Tomato plants
- Turnips

Azaleas: Prune if not previously done. Check soil acidity. Late April, spray for disease prevention and insect control, fertilize again only if necessary, 4 to 6 weeks after first feeding. (see Fertilizing page 70)

Black Spot: Watch roses. As a preventive, spray every few days.

Bulbs: When cutting lilies, leave about one-fourth of the stem to mature the bulb. Gladioli should have at least four green leaves left on lower part of stem. Separate waterlilies and renew earth in tubs.

Camellias: Check soil acidity. Spray with fungicide for dieback control. Prune.

Chrysanthemums: Divide the last of April or early May. If divided earlier, plants are apt to grow woody and to make poor flowers. New shoots will make better plants than the old central root.

Cutting of Blossoms: Cut flowers freely, especially stock, pinks, arctotis, coreopsis, snapdragon and petunia. Some flowers which bloom freely and last but a short time may as well be cut and enjoyed. The blossoming periods of others will be prolonged if they are not permitted to seed. Enjoy the blossoms of spring floweirng shrubs, for cutting merely amounts to pruning, which should be done anyway as soon as the flowering season is over.

Cutworm: To control cut worm, slugs, snails and pill bugs, use poisoned baits available in Garden Shops.

Layering: Many trees and shrubs, including pink magnolia and the viburnums, the pink buff honeysuckle and many vines, such as wisteria and jasmine, may be successfully layered this month. Slit the bark on the underside of a branch, bend and fasten securely to the ground and cover with about two inches of earth. Verbenas may be treated in the same manner, except they should be covered with only a half-inch of earth. (page 118)

Mulch: All newly planted flowers, shrubs and trees at time of planting. A mulch keeps the soil from caking and promotes healthy growth of plants.

Mildew: If mildew appears on roses, crapemyrtles or other plants, dust—while the dew is on the plants—with sulphur.

Pruning: Japanese flowering quince, bridalwreath, weigela, deutzia and flowering trees should all be pruned after blooming.

Red Spider: Watch roses, sweet peas, evergreens and conifers.

PLANTS WHICH BLOOM IN APRIL

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Ageratum, *a* or *p*
- Alyssum, Sweet, *a*
- Amaryllis, *b*
- Anemone, *b*
- Aralia, *t d*
- Arctotis, *a*
- Azalea, *s d* and *e*
- Babysbreath, *a*
- Begonia, Bedding, *a*
- Browallia, *a*
- Calla, *b*
- Camellia, Japonica, *s e*
- Candytuft, *a*
- Canterbury Bell, *bn*
- Catalpa, *t d*
- Chinese Forget-me-not, *a*
- Citrus trees and shrubs
- Clethra, *s d*
- Columbine, *p*
- Cornflower, *a*
- Dahlia, *b*
- Daisy, English, *a*
    - Swan River, *a*
- Feverfew, *a* and *p*
- Forget-me-not, *p*
- Geranium, *p*
- Gerbera, *p*
- Godetia, *a*
- Honeysuckle, Common, *v e*
- Horse Chestnut, Dwarf, *s d*
- Huckleberry, native, *s* or *t d*
- Indian Hawthorn, *s e*
- Iris, *b*
- Jasmine, Confederate, *v e*
- Larkspur, *a*
- Lantana, *s d*
- Lily, Ace, *b*
    - Easter, *b*
    - Creole, *b*
    - Madonna, *b*
    - Regal, *b*
- Locust, Black, *t d*
- Lupine, *a*
- Magnolia, *t e*
- Mockorange, *s d*
- Narcissus, Poeticus, *b*
- Oxalis, *b*
- Pansy, *a*
- Penstemon, *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a, bn* and *p*
- Plumbago, *p*
- Poppies, *a*
- Pyracantha, *s e*
- Queen Anne's-lace, *a*
- Roses
- Scabiosa, *a, bn* and *p*
- Schizanthus, *a*
- Snapdragon, *a*
- Spirea, *s d*
- Stock, *a* or *bn*
- Sweet Olive, *s e*
- Sweet Pea, *a*
- Verbena, *p*
- Viburnum, Native, *s d*
- Viola, *a*
- Weigela, *s d*
- Wisteria, *v p d*

PINK AND ROSE

- Amaryllis, *b*
- Anemone, *b*
- Azalea, *s d* and *e*
- Begonia, Bedding, *a*
- California Poppy, *a*
- Camellia, Japonica, *s e*
- Candytuft, *a*
- Canterbury Bell, *bn*
- Chinese Forget-me-not, *a*
- Columbine, *p*
- Cornflower, *a*
- Crab, Flowering, *t d*
- Currant, Indian, *s d*
- Dahlia, *b*
- Daisy, English, *a*
- Daphne, Rose, *s e*
- Forget-me-not, *p*
- Gerbera, *p*
- Geranium, *p*
- Godetia, *a*
- Honeysuckle,
    - Belgian, *v* or *s e*
    - heckrodti, *v p*
- Indian Hawthorn, *s e*
- Iris, *b*
- Lantana, *s d*
- Larkspur, *a*
- Lavatera, *a*
- Lupine, *a*
- Oxalis, *b*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a, bn* and *p*
- Poppies, *a*
- Roses
- Salt Cedar, *s d*
- Scabiosa, *a, bn* or *p*
- Schizanthus, *a*
- Snapdragon, *a*
- Spirea, *s d*
- Stock, *a* or *bn*
- Sweet Pea, *a*
- Verbena, *p*
- Weigela, *s d*

RED

- Amaryllis, *b*
- Anemone, *b*
- Azalea, *s e*
- Begonia, Bedding, *a*
- Bottlebrush, *s e*
- Bougainvillea, *v p e*
- California Poppy, *a*
- Camellia, *s e*
- Columbine, *p*
- Coralbean, *s d*
- Cornflower, *a*
- Dahlia, *b*
- Daisy, English, *a*
- Gerbera, *p*
- Geranium, *p*
- Godetia, *a*
- Guava, Pineapple, *s e*
- Honeysuckle, Coral, *v e*
- Horse Chestnut, Dwarf, *s d*
- Indian Paint Brush, *a*
- Iris, *b*
- Nasturtium, *a*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a, bn* and *p*
- Poppies, *a*
- Roses
- Salvia, Gregg, *s d*
- Scabiosa, *a, bn* and *p*
- Shrimp Plant, *p*
- Snapdragon, *a*
- Spirea, *s d*
- Stock, *a* or *bn*
- Sweet Pea, *a*
- Verbena, *p*
- Weigela, *s d*
- Winecup, *p*

YELLOW

- Bignonia, *v e p*
- Calendula, *a*
- California Poppy, *a*
- Calla, *b*
- Columbine, *p*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Feverfew, *a* and *p*
- Gazania, *p*
- Gerbera, *p*
- Godetia, *a*
- Gorse, *s e*
- Iris, *b*
- Jasmine, *s e*
- Kerria, *s d*
- Lantana, *s d*
- Lupine, *a*
- Magnolia, fuscata, *s e*
- Nasturtium, *a*
- Oxalis, *b*
- Pansy, *a*
- Parkinsonia, *t e*
- Phlox, Drummond, *a*
- Roses
- Scabiosa, *a, bn* and *p*
- Schizanthus, *a*
- Sedum, *p*
- Snapdragon, *a*
- Stock, *a* or *bn*
- Sweet Pea, *a*
- Viola, *a*

ORANGE

- Calendula, *a*
- California Poppy, *a*
- Bougainvillea, *v e p*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Lantana, *s d*
- Nasturtium, *a*
- Pansy, *a*
- Pomegranate, *s d*
- Roses
- Snapdragon, *a*
- Trumpetcreeper, *v d*

BLUE AND LAVENDER

- Ageratum, *a* or *p*
- Anemone, *b*

- Azalea, *s e*
- Bignonia, speciosa, *v p e*
- Bluebonnet, *bn*
- Browallia, *a*
- Candytuft, *a*
- Canterbury Bell, *bn*
- Chinese Forget-me-not, *a*
- Columbine, *p*
- Cornflower, *a*
- Dahlia, *b*
- Daisy, Swan River, *a*
- Delphinium, *a* or *p*
- False-Indigo, *s d*
- Forget-me-not, *p*
- Iris, *b*
- Laceflower, *a*
- Lantana, Weeping, *s d*
- Larkspur, *a*
- Lobelia, *a*
- Lupine, *a*
- Pansy, *a*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
  - Louisiana, *p*
- Pinks, *a*, *bn* and *p*
- Plumbago, *p*
- Poppies, *a*
- Salvia, Blue, *p*
- Scabiosa, *a*, *bn* and *p*
- Schizanthus, *a*
- Stock, *a* or *bn*
- Sweet Pea, *a*
- Trachelium, *a*
- Verbena, *p*
- Viola, *a*
- Violet, *p*
- Wisteria, *v p d*

PURPLE

- Anemone, *b*
- Bougainvillea, *v p e*
- Canterbury Bell, *bn*
- Columbine, *p*
- Cornflower, *a*
- Dahlia, *b*
- Flag (Native Iris), *b*
- Iris, *b*
- Larkspur, *a*
- Lupine, *a*
- Pansy, *a*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Poppies, *a*
- Scabiosa, *a*, *bn* and *p*
- Schizanthus, *a*
- Stock, *a* and *bn*
- Sweet Pea, *a*
- Verbena, *p*
- Viola, *a*
- Violet, *p*

May

> Among the changing months, May stands
> confessed
> The sweetest, and in the fairest colors
> dressed.
>
> —*Thompson*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Ageratum, *f*
- Alyssum, Sweet, *f* or *o*
- Balsam, Garden, *f* or *o*
  - Sultan, *f* or *o*
- Castor-bean, *o*
- Cleome, *o*
- Cockscomb, *f* or *o*
- Coral Vine, *o*
- Cosmos, Klondyke, *o*
  - Late, *o*
- Cypressvine, *o*
- Dahlia, Dwarf, *o*
- Feverfew, *o*
- Four-o'clock, *o*
- Globe Amaranth, *o*
- Gourd, *o*
- Marigold, *o*
- Moonflower, *o*
- Periwinkle, *o*
- Petunia, *f* or *o*
- Portulaca, *o*
- Scabiosa, *o*
- Sunflower, *o*
- Sweet Pea, Perennial, *o*
- Tithonia, *o*
- Torenia, *o*
- Zinnia, *o*

PLANTS *which may now be placed in the open ground*

- Acalypha
- Ageratum
- Alternanthera
- Amaranth
- Aralia
- Balsam, Garden
  - Sultan
- Begonia, Bedding
- Blanketflower
- Browallia
- Butterflyweed
- Calliopsis
- Chrysanthemum
- Cleome
- Cockscomb
- Coral Vine
- Cosmos, Klondyke
  - Late
- Croton
- Dahlia, Dwarf
- Eranthemum
- Foliage plants
- Four-o'clock
- Geranium
- Gerbera
- Godetia
- Hibiscus
- Jasmine, Dayblooming
  - Night-blooming
- Lantana
- Lythrum
- Mallow
- Marigold
- Mistflower
- Moonflower
- Periwinkle
- Petunia
- Phlox, Louisiana
- Physostegia
- Plumbago
- Potatovine
- Salvia
- Sedum
- Shrimp Plant
- Sweet Sultan
- Tithonia
- Torenia
- Verbena
- Violet
- Wallflower
- Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Alpinia (Ginger)
- Alstroemeria
- Amaryllis
- Amarcrinum
- Billbergia
- Caladium
- Canna
- Cooperia
- Dahlia
- Dietes
- Gladiolus
- Gloriosa (Climbing Lily)
- Habranthus
- Hedychium (Butterfly Lily)
- Hemerocallis
- Iris,
  - Evansia
  - Kaempferi
  - Louisiana
- Lachenalia
- Liriope
- Lycoris
- Marica (Walking Iris)
- Montbretia
- Sprekelia
- Tulbaghia
- Tuberose
- Water Hyacinth
- Water Lily
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Artichoke tubers
- Asparagus roots
- Beans, Lima
  - Pinto
  - Snap
- Beets
- Broccoli plants
- Carrots
- Cabbage plants
- Cantaloupe
- Celtuce
- Chard, Swiss
- Chives
- Corn
- Cucumber
- Cushaw
- Eggplant plants
- Endive
- Jerusalem artichokes
- Leeks
- Lettuce
- Mirliton
- Mustard
- Okra
- Onion sets
- Parsley
- Peanuts
- Peas, Blackeyed
  - Crowder
- Pepper plants
- Popcorn
- Potatoes, Sweet, slips
- Pumpkin
- Radishes
- Shallots
- Spinach
- Spinach, New Zealand
- Squash
- Tampala
- Tendergreens
- Tomato plants
- Turnips
- Watermelon

APHIDS: Watch roses. If aphids appear use a nicotine solution.

AZALEAS: Last chance to prune if you haven't done it. Replenish mulch so it is several inches thick at all times.

CAMELLIAS: Fertilize lightly for the second time. Spray for tea scale. Replenish mulch; keep several inches thick at all times.

CHRYSANTHEMUMS: Early May is best month to divide.

CONIFERS: Water foliage, spray vigorously, in late afternoon, every two weeks from now on throughout the summer, washing the foliage on the inner branches. This will prevent many pests. Late afternoon spraying of conifers will avoid scalding. Watch for red spider and bag or basket worm.

FALL GARDEN: In the plant list above, are several varieties which will make the garden rich in bloom in the fall.

FERTILIZE: Bearded Iris and Louisiana Iris after blooming.

MULCH: Maintain mulch at least 2 inches thick. This will keep the roots cool and retain moisture in the bed.

PEPPERS: Planted in the sun or partial shade, they will beautifully ornament the August garden and supply peppers until frost for the kitchen and the mockingbirds.

PRUNING: Spring flowering shrubs may safely be pruned after they have finished blooming.

TRANSPLANTING: If necessary, plants or shrubs may be moved as late as May, provided sufficient earth is retained around the roots so that they will not dry out, and proper precautions are observed in planting and watering. It is advisable to remove a large portion of the leaves before taking up trees, shrubs or roses at this season of the year. See that they are thoroughly watered as soon as planted, and carefully attended until established.

In fact, year round planting has been made possible by the use of container-grown plants. Shrubs, trees and vines may be shifted from cans to their permanent location without the loss of a single root. Also properly balled and burlapped plants may be easily moved in warm weather. Plants must be kept watered.

VIOLETS: After blooming season is past, separate clumps into single stems, with roots, and replant. They like plenty of fertilizer and water and prefer sun.

WATERING: It is safer to water the beds thoroughly when needed rather than to sprinkle them daily. Sprinkling encourages grass and plants to form a shallow root system which does not sustain growth or bloom during hot, dry weather. Watering should be done now in late afternoon, since the nights are no longer cool enough to chill or to promote mildew.

PLANTS WHICH BLOOM IN MAY

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

Abelia, *s e*
Ageratum, *a* or *p*
Alyssum, Sweet, *a*
Amaryllis, *b*
Arctotis, *a*
Babysbreath, *a*
Balloon-flower, *p*
Balsam, *a*
Beargrass, *s e*
Begonia, Bedding, *a*
Browallia, *a*
Butterflyweed, *p*
Calla, *b*
Candytuft, *a*
Canna, *b*
Canterbury Bell, *bn*
Cape Jasmine, *s e*
Catalpa, *t d*
China Aster, *a*
Chinese Forget-me-not, *a*
Cistus, Rockrose, *s e*
Citrus shrubs and trees
Clarkia, *a*
Columbine, *p*
Cornflower, *a*
Cosmos, Early, *a*
Crinum, *b*
Dahlia, *b*
Daisy, English, *a*
Shasta, *p*
Swan-River, *a*
Deutzia, *s d*
Duranta, *s d*
Elderberry, *s d*
Evening-primrose, *p*
Feverfew, *a* and *p*
Forget-me-not, *p*
Four-o'clock, *p*
Gerbera, *p*
Geranium, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Godetia, *a*
Hibiscus, *p*
Hollyhock, *a* or *bn*
Honeysuckle,
Common, *v e*
Hydrangea, *s d*
Indian Hawthorn, *s e*
Iris, *b*
Jasmine,
Confederate, *v e*
Dayblooming, *s d*
Lantana, *s d*
Larkspur, *a*
Lavatera, *a*
Lily, Ace, *b*
Easter, *b*
Estate, *b*
Madonna, *b*
Spider, Wild, *b*
Regal, *b*
Lupine, *a*
Magnolia, *t e*
Mallow, *p*
Mockorange, *s d*
Morning-Glory, *v a*
Myrtle, Sweet, *s e*
Oleander, *s e*
Oxalis, *b*
Pansy, *a*
Petunia, *a*
Phlox, Drummond, *a*
Pinks, *a*, *bn* and *p*
Plumbago, *p*
Poppy, *a*
Potatovine, *v p*
Queen Anne's-lace, *a*
Roses
Scabiosa, *a*, *bn* and *p*
Schizanthus, *a*
Snapdragon, *a* and *bn*
Stock, *a* and *bn*
Sweet Pea, Late, *a*
Sweet Sultan, *a*
Tobacco, Flowering, *a*
Torenia, *a*
Verbena, *p*
Viola, *a*
Waterlily, *b*
Zephyr Lily, *b*
Zinnia, *a*

PINK AND ROSE

Amaryllis, *b*
Balsam, *a*
Barbados Cherry, *s e*
Begonia, Bedding, *a*
Bignonia, *v p* and *e*
California Poppy, *a*
Candytuft, *a*
Canna, *b*
Canterbury Bell, *bn*
China Aster, *a*
Chinese Forget-me-not, *a*
Clarkia, *a*
Columbine, *p*
Cornflower, *a*
Cosmos, Early, *a*
Crinum, *b*
Dahlia, *b*
Daisy, English, *a*
Evening-primrose, *p*
Forget-me-not, *p*
Four-o'clock, *p*
Gerbera, *p*
Geranium, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Godetia, *a*
Hibiscus, Chinese, *s e*
Hollyhock, *a* or *bn*
Honeysuckle, *v e*
Hydrangea, *s d*
Impatiens, sultani, *a*
Iris, *b*
Lantana, *s d*
Larkspur, *a*
Lavatera, *a*
Lupine, *a*
Lythrum, *p*
Mimosa, *t d*
Morning-Glory, *v a*
Oleander, *s e*
Oxalis, *b*
Penstemon, *a* or *p*
Petunia, *a*
Phlox, Drummond, *a*
Pinks, *a*, *bn* and *p*
Poppies, *a*
Portulaca, *a*
Roses
Salt Cedar, *s d*
Scabiosa, *a*, *bn* and *p*
Schizanthus, *a*
Sedum, *p*
Snapdragon, *a*
Spirea, *s d*
Stock, *a* or *bn*
Sweet Pea, Late, *a*
Sweet Sultan, *a*
Verbena, *p*
Waterlily, *b*
Zephyr Lily, *b*
Zinnia, *a*

RED

Amaryllis, *b*
Balsam, *a*
Begonia, Bedding, *a*
Blanketflower, *a*
Bottlebrush, *s e*
Bougainvillea, *v e*
California Poppy, *a*
Calliopsis, *a*
Candytuft, *a*
Canna, *b*
Clarkia, *a*
Columbine, *p*
Coraltree, *t d*
Coralbean, *s d*
Cornflower, *a*
Cosmos, Early, *a*
Dahlia, *b*
Daisy, Painted, *a*
Four-o'clock, *p*
Gerbera, *p*
Geranium, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Godetia, *a*
Guava, Pineapple, *s e*
Hibiscus, Chinese, *s e*
Hollyhock, *a* or *bn*
Hydrangea, *s d*
Iris, *b*
Lavatera, *a*
Lupine, *a*
Morning-Glory, *v a*
Nasturtium, *a*
Oleander, *s e*
Pansy, *a*
Penstemon, *a* or *p*
Petunia, *a*
Phlox, Drummond, *a*
Pinks, *a*, *bn* and *p*
Pomegranates, *s d*
Poppies, *a*
Roses
Salvia, Gregg, *s d*
Scarlet, *a*
Scabiosa, *a*, *bn* and *p*
Shrimp Plant, *p*
Snapdragon, *a*
Spirea, *s d*
Stock, *a* or *bn*
Sweet Pea, Late, *a*
Tobacco, Flowering, *a*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

YELLOW

Balsam, *a*
Bignonia, *v p* and *e*
Blanketflower, *a*
Calendula, *a*
Calla, *b*
California Poppy, *a*
Calliopsis, *a*

- Canna, *b*
- Columbine, *p*
- Coreopsis, *p*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Daylily, *b*
- Evening-primrose, *p*
- Feverfew, *a* and *p*
- Four-o'clock, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Godetia, *a*
- Hibiscus, Chinese, *s e*
- Hollyhock, *a* and *bn*
- Iris, *b*
- Jasmine, floridum, *s e*
  - revolutum, *s e*
- Kerria, *s d*
- Lantana, *s d*
- Lupine, *a*
- Nasturtium, *a*
- Oleander, *s e*
- Oxalis, *b*
- Pansy, *a*
- Parkinsonia, *t d*
- Phlox, Drummond, *a*
- Poinciana, *s d*
- Portulaca, *a*
- Roses
- Salpiglossis, *s*
- Schizanthus, *a*
- Sedum, *p*
- Scabiosa, *a*, *bn* and *p*
- Snapdragon, *a*
- St. John's-wort, *s d*
- Stock, *a* or *bn*
- Sunflower, *a* and *p*
- Sweet Pea, Late, *a*
- Waterlily, *b*
- Waterpoppy, *p*
- Zinnia, *a*

ORANGE

- Balsam, *a*
- Blanketflower, *a*
- Butterflyweed, *p*
- Calendula, *a*
- California Poppy, *a*
- Canna, *b*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Daylily, *b*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, Chinese, *s e*
- Impatiens, sultani, *a*
- Iris, *b*
- Lantana, *s d*
- Lily, Tiger, *b*
- Nasturtium, *a*
- Oleander, *s e*
- Pansy, *a*
- Pomegranate, *s d*
- Portulaca, *a*
- Roses
- Salpiglossis, *a*
- Snapdragon, *a*
- Trumpetvine, *v p*
- Zinnia, *a*

BLUE AND LAVENDER

- Agapanthus, *b*
- Ageratum, *a* or *p*
- Anchusa, *a*
- Balloon-flower, *p*
- Balsam, *a*
- Bignonia, *v p* and *e*
- Bluebonnet, *bn*
- Browallia, *a*
- Butterflybush, *s d*
- Candytuft, *a*
- Canterbury Bell, *bn*
- Chaste-tree, *s d*
- China Aster, *a*
- Chinese Forget-me-not, *a*
- Columbine, *p*
- Cornflower, *a*
- Cosmos, Early, *a*
- Dahlia, *b*
- Daisy, Swan River, *a*
- Delphinium, *a* or *p*
- Duranta, *s d*
- Forget-me-not, *p*
- Gladiolus, *b*
- Godetia, *a*
- Hydrangea, *s d*
- Iris, *b*
- Laceflower, Blue, *a*
- Lantana, Weeping, *s d*
- Larkspur, *a*
- Liriope, *b*
- Lobelia, *a*
- Lupine, *a*
- Morning-Glory, *v a* and *p*
- Nepeta, mussini, *p*
- Oxalis, *b*
- Pansy, *a*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Pinks, *a*, *bn* and *p*
- Plumbago, *s p e*
- Poppies, *a*
- Potatovine, *v p*
- Salvia, *p*
- Scabiosa, *a*, *bn* and *p*
- Schizanthus, *a*
- Stock, *a* and *bn*
- Sweet Pea, Late, *a*
- Sweet Sultan, *a*
- Torenia, *a*
- Verbena, *p*
- Viola, *a*
- Violet, *p*
- Water Hyacinth, *b*
- Waterlily, *b*
- Zinnia, *a*

PURPLE

- Balsam, *a*
- Bougainvillea, *v e*
- Bushclover, *s d*
- Canterbury Bell, *bn*
- China Aster, *a*
- Cistus, Rock Rose, *s e*
- Columbine, *p*
- Cornflower, *a*
- Dahlia, *b*
- Gladiolus, *b*
- Iris, *b*
- Larkspur, *a*
- Lupine, *a*
- Lythrum, *p*
- Morning-Glory, *v a*
- Pansy, *a*
- Penstemon, *a* or *p*
- Petunia, *a*
- Phlox, Drummond, *a*
- Poppies, *a*
- Salvia, *p*
- Salpiglossis, *a*
- Scabiosa, *a*, *bn* and *p*
- Schizanthus, *a*
- Stock, *a* or *bn*
- Sweet Pea, Late, *a*
- Sweet Sultan, *a*
- Verbena, *p*
- Viola, *a*
- Waterlily, *b*
- Zinnia, *a*

June

> And what is so rare as a day in June?
> Then, if ever, come perfect days.
> —*Lowell*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Ageratum, *f*
- Alyssum, Sweet, *f* or *o*
- Balsam, Garden, *f* or *o*
  - Sultan, *f* or *o*
- Blanketflower, *o*
- Blue Lace Flower, *o*
- Cleome, *o*
- Castor-bean, *o*
- Cockscomb, *f* or *o*
- Coleus, *f* or *o*
- Cosmos, Klondyke, *o*
  - Late, *o*
- Dahlia, Dwarf, *o*
- Feverfew, *o*
- Four-o'clock, *o*
- Marigold, *o*
- Moonvine, *o*
- Morning-Glory, *o*
- Periwinkle, *f* or *o*
- Portulaca, *o*
- Sunflower, *o*
- Tithonia, *o*
- Torenia, *f* or *o*
- Zinnia, *o*

PLANTS *which may now be placed in the open ground*

- Acalypha
- Ageratum
- Alternanthera
- Aspidistra
- Balsam
- Blanketflower
- Bloodleaf
- Browallia
- Chrysanthemum
- Cleome
- Cockscomb
- Coleus
- Copperleaf
- Coreopsis
- Cosmos, Klondyke
- Croton
- Dahlia, Dwarf
- Feverfew
- Four-o'clock
- Marigold
- Michaelmas Daisy
- Periwinkle
- Plumbago
- Salvia
- Shrimp Plant
- Sweet Sultan
- Tithonia
- Tobacco, Flowering
- Torenia
- Wallflower
- Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Billbergia
- Caladium
- Canna
- Crinum
- Dahlia
- Dietes
- Eucharis
- Habranthus
- Haemanthus
- Hemerocallis
- Iris, Evansia
    - Kaempferi
    - Louisiana
- Lycoris
- Marica
- Oxalis
- Sisyrinchium
- Sprekelia
- Tulbaghia
- Water Lily
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Beans, Lima
    - Pinto
    - Snap, bush
- Beets
- Broccoli
- Cabbage
- Cantaloupe
- Carrots
- Cauliflower
- Chard, Swiss
- Corn
- Corn Salad
- Cucumber
- Cushaw
- Eggplant plants
- Endive
- Lettuce
- Okra
- Mustard
- Parsley
- Peanuts
- Peas, Blackeyed
    - Crowder
- Pepper plants
- Popcorn
- Potato, Sweet, slips
- Pumpkin
- Radishes
- Shallot sets
- Soy beans
- Spinach, New Zealand
- Squash
- Tampala
- Tomato plants
- Turnips
- Watermelon

AZALEAS AND CAMELLIAS: Water by deep soaking once a week or as needed during hot weather.

CUTTING OF BLOSSOMS: Certain flowers, such as hydrangeas and stock, last so long on the bush that it seems a pity to cut them for a brief enjoyment in the house. Others, however, petunias, zinnias, forget-me-nots, bloom much better if blossoms are cut freely, as the plants are thereby prevented from going to seed. After the first free flowering, many varieties, such as larkspur, delphinium, stock and others, if cut back, will produce a second crop.

LAWNS: Brown spots indicate chinch bug or fungus damage. (See pages 49, 126 and 127.)

MULCH: Keep beds well mulched. All iris except the bearded.

PESTS: Busy month for insects. Frequent spraying and dusting is necessary.

PRUNING: The blossom period of spring-blooming, climbing roses is past and new shoots are appearing, so that old and new wood may be easily distinguished. Prune out the oldest canes and all dead branches. Spring climbers bear blossoms on wood matured the previous summer, and if they are pruned later in the year than now, many of next year's blooms will be lost.

STAKING: Many tall-growing plants will be less apt to overcrowd and will better attain their proper beauty and strength if not allowed to spread over the beds. Bamboo stakes are good. Tie firmly to the stake, but loosely about the stems of the plant.

WATERING: As in May.

PLANTS WHICH BLOOM IN JUNE

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Abelia, *s e*
- Ageratum, *a* or *p*
- Althea, *s d*
- Balloon-flower, *p*
- Balsam, *a*
- Begonia, Bedding, *a*
- Butterflyweed, *p*
- Buttonbush, *s d*
- Canna, *b*
- Cape Jasmine, *s e*
- China Aster, *a*
- Chinese Forget-me-not, *a*
- Cistus, Rockrose, *s e*
- Clarkia, *a*
- Clematis, *v p*
- Columbine, *p*
- Confederate Rose, *s d*
- Cosmos, Early, *a*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Cypressvine, *v a*
- Dahlia, *b*
- Daisy, Shasta, *p*
    - Swan-river, *a*
- Datura, *a*
- Duranta, *s d*
- Elderberry, *s d*
- Everlastings, *a*
- False-Dragonhead, *p*
- Feverfew, *a* and *p*
- Flowering Willow, *s d*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Globe Amaranth, *a*
- Hibiscus, *p*
- Hollyhock, *a* or *bn*
- Honeysuckle, *v e*
- Hydrangea, *s d*
- Iris, *b*
- Ismene, *b*
- Jasmine, Dayblooming, *s d*
    - Grand Duke, *s e*
    - Maid of Orleans, *s e*
    - Sambac, *s e*
    - Spanish, *s e*
- Lantana, *s d*
- Larkspur, *a*
- Lemon Verbena, *s d*
- Lily, Regal, *b*
    - Speciosum album, *b*
- Madeira-vine, *v p*
- Magnolia, *t e*
- Mallow, *p*
- Morning-Glory, *v a*
- Oleander, *s e*
- Periwinkle, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
    - Perennial, *p*
- Pinks, *a*, *bn* and *p*
- Plumbago, *p*
- Plumepoppy, *p*
- Portulaca, *a*
- Potatovine, *v p*
- Rainlily, *b*
- Roses
- Scabiosa, *a*, *bn* and *p*
- Sedum, *p*
- Silver-lace Vine, *v p*
- Snapdragon, *a* and *bn*
- Tobacco, Flowering, *a*
- Torenia, *a*
- Tuberose, *b*
- Verbena, *p*
- Waterlily, *b*
- Willow, Flowering, *s d*
- Yucca, *s e*
- Zephyr Lily, *b*
- Zinnia, *a*

PINK AND ROSE

- Althea, *s d*
- Balsam, *a*
- Barbados Cherry, *s e*
- Begonia, Bedding, *a*
- Canna, *b*
- China Aster, *a*
- Chinese Forget-me-not, *a*
- Clarkia, *a*
- Columbine, *p*
- Confederate Rose, *s d*
- Coral Vine, *v p*
- Cosmos, Early, *a*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Dahlia, *b*
- Everlastings, *a*
- False-Dragonhead, *p*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Hollyhock, *a* and *bn*
- Honeysuckle, *v e*
- Hydrangea, *s d*
- Impatiens, sultani, *a*
- Iris, *b*
- Lantana, *s d*
- Larkspur, *a*
- Lily, speciosum, *b*
- Lythrum, *p*
- Mallow, *p*
- Mimosa, *t d*
- Morning-Glory, *v a*
- Oleander, *s e*
- Periwinkle, *a*
- Petunia, *a*
- Phlox, Drummond, *a*
    - Perennial, *p*
- Pinks, *a*, *bn* and *p*
- Portulaca, *a*
- Roses
- Salt Cedar, *s d*
- Sedum, *p*
- Scabiosa, *a*, *bn* and *p*
- Snapdragon, *a*
- Spiderflower, Cleome, *a*
- Spirea, *s d*
- Verbena, *p*
- Waterlily, *b*
- Zephyr Lily, *b*
- Zinnia, *a*

RED

- Althea, *s d*
- Balsam, *a*
- Bean, Scarlet Runner, *v a*
- Begonia, Bedding, *a*
- Blanketflower, *a*
- Bougainvillea, *v e*
- Calliopsis, *a*
- Canna, *b*
- Cardinal Climber, *v a*
- Clarkia, *a*
- Clerodendron, *p*
- Cockscomb, *a*
- Columbine, *p*
- Coneflower, *p*
- Coraltree, *t d*
- Cosmos, Early, *a*
- Crapemyrtle, *s* or *t d*
- Cypressvine, *v a*
- Dahlia, *b*
- Everlastings, *a*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Hollyhock, *a* and *bn*
- Hydrangea, *s d*
- Iris, *b*
- Jacobinia, *s e*
- Mallow, *p*
- Montbretia, *b*
- Morning-Glory, *v a*
- Nasturtium, *a*
- Oleander, *s e*
- Petunia, *a*
- Phlox, Drummond, *a*
    - Perennial, *p*
- Pinks, *a*, *bn* and *p*
- Pomegranate, *s d*
- Portulaca, *a*
- Roses
- Rosemallow, *p*
- Salvia, Gregg, *s d*
    - Scarlet, *a*
- Scabiosa, *a*, *bn* and *p*
- Shrimp Plant, *p*
- Snapdragon, *a*
- Spirea, *s d*
- Sunflower, *a*
- Tithonia, *a*
- Tobacco, Flowering, *a*
- Turk's-cap, *s e*
- Valeriana, *a*
- Verbena, *p*
- Waterlily, *b*
- Zinnia, *a*

YELLOW

- Allamanda, *v p*
- Balsam, *a*
- Blackberry Lily, *b*
- Blanketflower, *a*
- Butterflyweed, *p*
- Calliopsis, *a*
- Canna, *b*
- Cockscomb, *a*
- Columbine, *p*
- Coneflower, *p*
- Coreopsis, *p*
- Dahlia, *b*

Daisy, African Golden, *a*
Daylily, *b*
Evening Primrose, *p*
Everlastings, *p*
Feverfew, *a*
Four-o'clock, *p*
Gerbera, *p*
Gladiolus, *b*
Hibiscus, Chinese, *s e*
Hollyhock, *a* and *bn*
Iris, *b*
Jasmine, *s e*
Kerria, *s d*
Kniphofia, *b*
Lantana, *s d*
Mallow, Giant Yellow, *p*
Marigold, *a*
Montbretia, *b*
Nasturtium, *a*
Oleander, *s e*
Parkinsonia, *t d*
Poinciana, *s d*
Portulaca, *a*
Roses
Scabiosa, *a*, *bn* and *p*
Salpiglossis, *a*
Senna, *s d*
Snapdragon, *a*
St. John's-wort, *s d*
Sunflower, *a* and *p*
Waterlily, *b*
Waterpoppy, *p*
Zinnia, *a*

ORANGE

Balsam, *a*
Blanketflower, *a*
Bougainvillea, *v e*
Butterflyweed, *p*
Canna, *b*
Coneflower, *p*
Dahlia, *b*
Daisy, African Golden, *a*
Daylily, *b*
Gerbera, *p*
Gladiolus, *b*
Hibiscus, Chinese, *s e*
Impatiens, sultani, *a*
Iris, *b*
Kniphofia, *b*
Lantana, *s d*
Lily, Tiger, *b*
Marigold, *a*
Montbretia, *b*
Nasturtium, *a*
Oleander, Mrs. Roeding, *s e*
Portulaca, *a*
Roses
Salpiglossis, *a*
Snapdragon, *a*
Thunbergia, *v a*
Trumpetvine, *v p*
Zinnia, *a*

BLUE AND LAVENDER

Agapanthus, *b*
Ageratum, *a* or *p*
Althea, *s d*
Balloonflower, *p*
Balsam, *a*
Bluebell, Texas, *bn*
Browallia, *a*
Butterflybush, *s d*
Chaste-tree, *s d*
China Aster, *a*
Chinese Forget-me-not, *a*
Clitoria, *v a*
Columbine, *p*
Cosmos, Early, *a*
Crapemyrtle, *s* or *t d*
Dahlia, *b*
Daisy, Swan-river, *a*
Datura, *a*
Duranta, *s d*
False-Dragonhead, *p*
Forget-me-not, *p*
Gladiolus, *b*
Globethistle, *a*
Hydrangea, *s d*
Iris, *b*
Lantana, Weeping, *s d*
Larkspur, *a*
Leucophyllum, *s e*
Lobelia, *a*
Liriope, *b*
Morning-Glory, *v*, *a* and *p*
Morning-Glory Tree, *s d*
Nepeta mussini, *p*
Passionflower, *v p*
Petunia, *a*
Perennial Phlox, *p*
Pinks, *a*, *bn* and *p*
Plumbago, *p e*
Potatovine, *v p*
Salvia, *p*
Scabiosa, *a*, *bn* and *p*
Stokesia, *p*
Torenia, *a*
Verbena, *p*
Water-hyacinth, *b*
Water-lily, *b*
Willow, Flowering, *t d*
Zinnia, *a*

PURPLE

Balloonflower, *p*
Bluebell, Texas, *bn*
Bougainvillea, *v e*
Bushclover, *s d*
China Aster, *a*
Cistus, Rockrose, *s e*
Columbine, *p*
Coneflower, *p*
Crapemyrtle, *s* or *t d*
Dahlia, *b*
Everlastings, *a*
Gladiolus, *b*
Iris, *b*
Larkspur, *a*
Lythrum, *p*
Morning-Glory, *v a*
Perennial Phlox, *p*
Petunia, *a*
Salpiglossis, *a*
Salvia, *p*
Scabiosa, *a*, *bn* and *p*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

July

When the sunne shineth, make hay!
—*Heywood*

SEEDS *which may now be sown in flats (f) or open ground (o)*

Ageratum, *f*
Alyssum, Sweet, *f* or *o*
Balsam, Garden, *f* or *o*
  Sultan, *f* or *o*
Blanketflower, *o*
Bluebonnet, *o*
Castor-bean, *o*
Cockscomb, *f* or *o*
Cosmos, Late, *o*
Four-o'clock, *o*
Marigold, *o*
Moonvine, *o*
Morning-Glory, *o*
Pansy, *f*
Petunia, *f* or *o*
Portulaca, *o*
Sunflower, *o*
Tithonia, *o*
Vinca, *f* or *o*
Zinnia, *o*

PLANTS *which may now be placed in the open ground*

Acalypha
Ageratum
Alternanthera
Aspidistra
Blanketflower
Bloodleaf
Calliopsis
Chrysanthemum
Cockscomb
Coleus
Copperleaf
Cosmos, Klondyke
Croton
Dahlia, Dwarf
Foliage Plants
Four-o'clock
Gerbera
Marigold
Periwinkle
Salvia
Tithonia
Tobacco, Flowering
Torenia
Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

Amaryllis
Billbergia
Cooperia
Dahlia
Gladiolus
Hemerocallis
Iris, Evansia
  Kaempferi
  Roof
Liriope
Lycoris
Marica
Oxalis
Tulbaghia
Water Hyacinth
Water Lily

VEGETABLES *which may now be sown in open ground*

Beans, Lima
  Snap
Beets
Broccoli
Brussels Sprouts
Cabbage
Carrots
Cauliflower
Cantaloupe
Chard, Swiss
Collards
Corn
Cucumber
Cushaw
Endive
Mustard
Okra
Peanuts
Peas, Crowder
Potatoes, Sweet
Pumpkin
Radishes
Shallot sets
Soy Beans
Spinach, New Zealand
Squash
Tampala
Tendergreens
Turnips
Watermelon

AZALEAS: Water regularly and well. Plants are setting buds.

BEDS may now be cleaned up between seasons and altered in design if desired. There are still a few seeds which may be planted safely this month, a few plants which may be placed in the garden with success. Summer watering may be reduced if the beds are properly cultivated and mulched.

July is a good month in which to make out lists of seeds, bulbs and plants for the fall garden as well as for next spring's garden.

BLUEBONNETS: When introducing bluebonnets into the garden or field, sow now as nature does, being careful to obtain this year's seed. Scatter on the ground, rake lightly and allow the natural rainfall to germinate the seed. It is possible to sow anytime from now on until January and still have flowers the following spring, but an early sowing brings best results and a longer flowering. Where naturalized, the grass should remain uncut until the plants have matured their seed. Bluebonnets prefer gravelly, well drained, alkaline soil.

HOLLYHOCKS: These should not be watered too freely after they have bloomed, as this often destroys the roots.

POINSETTIAS: Keep pinched back until August to make bushy plants.

PLANTS WHICH BLOOM IN JULY

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

Abelia, *s e*
Ageratum, *a* or *p*
Althea, *s d*
Balsam, *a*
Begonia, Bedding, *a*
Browallia, *a*
Butterfly Lily, *b*
Butterflyweed, *p*
Canna, *b*
Chinese Forget-me-not, *a*
Cistus, Rockrose, *s e*
Clematis, *v p*
Confederate Rose, *s d*
Cosmos, Early, *a*
Crapemyrtle, *s* or *t d*
Crinum, *b*
Cypressvine, *v a*
Dahlia, *b*
Datura, *a*
Duranta, *s d*
Elderberry, *s d*
Everlastings, *a*
False-Dragonhead, *p*
Feverfew, *a* and *p*
Forget-me-not, *p*
Four-o'clock, *p*
Geranium, *p*
Gerbera, *p*
Globe Amaranth, *a*
Hibiscus, *p*
Honeysuckle, *v e*
Jasmine,
  Day Blooming, *s d*
  Grand Duke, *s e*
  Maid of Orleans, *s e*
  Night Blooming, *s d*
  Sambac, *s e*
  Spanish, *s e*
Lantana, *s d*
Lemon Verbena, *s d*
Lily, Goldband, *b*
  Speciosum, album, *b*
Madeira-vine, *v p*
Mallow, *p*
Moonvine, *v a*
Morning-Glory, *v a*
Oleander, *s e*
Periwinkle, *a*
Perennial Phlox, *p*
Plumbago, *p*

Plumepoppy, *p*
Portulaca, *a*
Potatovine, *v p*
Rainlily, *b*
Roses
Silver-lace Vine, *v p*
Tobacco, Flowering, *a*
Torenia, *a*
Tuberose, *b*
Verbena, *p*
Waterlily, *b*
Willow, Flowering, *s d*
Yucca, *s e*
Zephyr Lily, *b*
Zinnia, *a*

PINK AND ROSE

Althea, *s e*
Balsam, *a*
Barbados Cherry, *s e*
Begonia, Bedding, *a*
Bignonia, *v p*
Canna, *b*
Confederate Rose, *s d*
Chinese Forget-me-not, *a*
Coral Vine, *v p*
Cosmos, Early, *a*
Crapemyrtle, *s* or *t d*
Crinum, *b*
Dahlia, *b*
Everlastings, *a*
False-Dragonhead, *p*
Forget-me-not, *p*
Four-o'clock, *p*
Geranium, *p*
Gerbera, *p*
Globe Amaranth, *a*
Hibiscus, Chinese, *s e*
Hollyhock, *a* and *bn*
Honeysuckle, *v* and *s e*
Impatiens, sultani, *a*
Lantana, *s d*
Lily, Speciosum, *b*
Lythrum, *p*
Mallow, *p*
Morning-Glory, *v a*
Oleander, *s e*
Perennial Phlox, *p*
Periwinkle, *a*
Petunia, *a*
Portulaca, *a*
Roses
Salt Cedar, *t e*
Spiderflower, Cleome, *a*
Spirea, *s d*
Verbena, *p*
Waterlily, *b*
Zephyr Lily, *b*
Zinnia, *a*

RED

Althea, *s d*
Balsam, *a*
Bean, Scarlet Runner, *v a*
Begonia, Bedding, *a*
Blanketflower, *a*
Bougainvillea, *v e*
Calliopsis, *a*
Canna, *b*
Cardinal Climber, *v a*
Cockscomb, *a*
Coneflower, *p*
Coraltree, *t d*
Cosmos, Early, *a*
Crapemyrtle, *s* or *t d*
Cypressvine, *v a*
Dahlia, *b*
Everlastings, *a*
Four-o'clock, *p*
Geranium, *p*
Gerbera, *p*
Globe Amaranth, *a*
Hibiscus, Chinese, *s e*
Hollyhock, *a* and *bn*
Jacobinia, *s e*
Lily, Speciosum Rubrum, *b*
Mallow, *p*
Montbretia, *b*
Morning-Glory, *v a*
Oleander, *s e*
Perennial Phlox, *p*
Petunia, *a*
Pomegranate, *s d*
Portulaca, *a*
Shrimp Plant, *p*
Roses
Salvia, Gregg, *s d*
Scarlet, *a*
Spirea, *s d*
Tobacco, Flowering, *a*
Turk's-cap, *s e*
Valeriana, *a*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

YELLOW

Allamanda, *v p*
Balsam, *a*
Blackberry Lily, *b*
Blanketflower, *a*
Butterflyweed, *p*
Calliopsis, *a*
Canna, *b*
Cockscomb, *a*
Coneflower, *p*
Coreopsis, *p*
Dahlia, *b*
Daisy, African Golden, *a*
Daylily, *b*
Everlastings, *a*
Feverfew, *a* and *p*
Four-o'clock, *p*
Gerbera, *p*
Golden Glow, *p*
Hibiscus, Chinese, *s e*
Hollyhock, *a* and *bn*
Jasmine, *s e*
Lantana, *s d*
Mallow, Giant Golden, *p*
Marigold, *a*
Montbretia, *b*
Oleander, *s e*
Poinciana, *s d*
Portulaca, *a*
Roses
St. John's-wort, *s d*
Sunflower, *a* and *p*
Torenia, *a*
Waterlily, *b*
Waterpoppy, *p*
Zinnia, *a*

ORANGE

Balsam, *a*
Blanketflower, *a*
Butterflyweed, *p*
Canna, *b*
Coneflower, *p*
Cosmos, Klondyke, *a*
Dahlia, *b*
Daisy, African Golden, *a*
Daylily, *b*
Gerbera, *p*
Hibiscus, Chinese, *s e*
Impatiens, sultani, *a*
Kniphofia, *b*
Lantana, *s d*
Marigold, *a*
Montbretia, *b*
Oleander, Mrs. Roeding, *s e*
Portulaca, *a*
Roses
Thunbergia, *v a*
Trumpetvine, *v p d*
Zinnia, *a*

BLUE AND LAVENDER

Ageratum, *a* or *p*
Althea, *s d*
Balloonflower, *p*
Balsam, *a*
Bluebell, Texas, *bn*
Browallia, *a*
Butterflybush, *s d*
Chaste-tree, Vitex, *s d*
Chinese Forget-me-not, *a*
Clitoria, *v a*
Cosmos, Early, *a*
Crapemyrtle, *s* or *t d*
Dahlia, *b*
Datura, *a*
Duranta, *s d*
False-Dragonhead, *p*
Forget-me-not, *p*
Globethistle, *a*
Lantana, Weeping, *s d*
Leucophyllum, *s e*
Liriope, *b*
Lobelia, *a*
Morning-Glory, *v*, *a* and *p*
Morning-Glory Tree *s d*
Nepeta, mussini, *p*
Passionflower, *v p*
Perennial Phlox, *p*
Petunia, *a*
Plumbago, *p*
Potatovine, *v p*
Salvia, *p*
Stokesia, *p*
Thunbergia, *v p*
Torenia, *a*
Verbena, *p*
Veronica, *p*
Water-hyacinth, *p*
Waterlily, *b*
Willow, Flowering, *t d*
Zinnia, *a*

PURPLE

Balloonflower, *p*
Balsam, *a*
Bluebell, Texas, *bn*
Bougainvillea, *v e*
Bushclover, *s d*
Cistus, Rockrose, *s e*
Coneflower, *p*
Crapemyrtle, *s* or *t d*
Dahlia, *b*
Everlastings, *a*
Gayfeather, *p*
Jack-bean, *v a*
Lythrum, *p*
Morning-Glory, *v a*
Perennial Phlox, *p*
Petunia, *a*
Salvia, *p*
Verbena, *p*
Waterlily, *b*
Wisteria, Summer Flowering, *v e*
Zinnia, *a*

August

. . . refulgent Summer comes,
. . . attended by the sultry Hours,
And ever-fanning breezes . . .
—*Thompson*

SEEDS *which may now be sown in flats (f) or open ground (o)*

Ageratum, *f*
Alyssum, Sweet, *f* or *o*
Amaranthus, *f*
Balsam, Garden, *f* or *o*
  Sultan, *f* or *o*
Bluebonnet, *o*
Calendula, *f* or *o*
Castor-bean, *o*
Cockscomb, *f* or *o*
Cornflower, *o*
Cosmos, Late, *o*
Four-o'clock, *o*
Gerbera, *f*
Hollyhock, *f*
Marigold, French, *o*
Pansy, *f*
Pinks, *f*
Snapdragon, *f*
Tobacco, Flowering, *f* or *o*
Tithonia, *o*

PLANTS *which may now be placed in the open ground*

Acalypha
Aspidistra
Azaleamum
Chrysanthemum
Cockscomb
Cosmos, Klondyke
Dahlia, Dwarf
Eranthemum
Four-o'clock
Gerbera
Marigold
Michaelmas Daisy
Periwinkle
Portulaca
Salvia
Shrimp Plant
Tithonia
Torenia
Verbena
Vinca

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

Amaryllis
Belladonna Lily
Canna
Chlidanthus
Dahlia
Dietes
Habranthus
Haemanthus
Hemerocallis
Iris, Evansia
  Kaempferi
Lycoris
Sparaxis
Tulbaghia
Water Hyacinth
Water Lily
Watsonia
Zephyranthes

VEGETABLES *which may now be sown in open ground*

Beans, Lima
  Snap
  Pole
Beets
Broccoli
Brussels Sprouts
Cabbage Plants
Carrots
Cauliflower
Celery
Chard, Swiss
Chinese Cabbage
Collards
Corn
Corn Salad
Cucumber
Eggplant
Endive
Kale
Kohlrabi
Mustard
Okra
Onion Plants
Parsley
Peas, Blackeyed
  Crowder
  English
Parsnips
Peppers, sweet
Potatoes, Irish, eyes
Radishes
Roquette
Shallot sets
Spinach, New Zealand
Squash
Tampala
Tomato plants
Turnips

Azaleas: Water regularly and well. Plants are setting buds.

Camellias: Continue watering. Check soil acidity.

Clean Up: Rose and flower beds of fallen foliage and yellowed leaves. Cut off faded blossoms.

Cold Frames: Prepare these now for September and October planting when seedlings may need protection from rain.

Crapemyrtles: If the old blooms and seed pods are kept picked, these shrubs often will prolong their bloom throughout the summer and sometimes into the fall.

Dahlias: Cut back after first crop, being careful to leave about half the growth. (page 95)

Fall or Early Spring Garden: August is the traditional month to sow seed in flats for fall and early spring gardens. Almost all perennials should be sown early in order to bloom the following season. Many will thus have a longer blooming period.

Iris: Cut off and burn old dead foliage, for it has already stored the rhizomes with nourishment and now only harbors disease. Dig in a little bone meal around the roots.

Maidenhair: This fern is partially dormant now and may look a little rusty. Do not permit it to dry out. Keep both moist and well-drained. It will flourish again in the fall.

Pansies: For *earliest* bloom plant seed now.

Pink Magnolia: Water thoroughly and maintain soil acidity.

Shasta Daisies: After these have bloomed do not water too freely, since this often destroys the plant.

Watering: Water only often enough to sustain life, but be sure to saturate the soil thoroughly each time so that the roots will not be drawn too near the surface. Water in late afternoon to avoid danger of scalding. Plants that must be syringed or sprayed should be treated in late afternoon.

PLANTS WHICH BLOOM IN AUGUST

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Abelia, *s e*
- Ageratum, *a* or *p*
- Althea, *s d*
- Balloonflower, *p*
- Balsam, *a*
- Begonia, Bedding, *a*
- Browallia, *a*
- Butterfly Lily, *b*
- Butterflyweed, *p*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Cistus, Rockrose, *s e*
- Clematis, *v p*
- Confederate Rose, *s d*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Cypressvine, *v a*
- Dahlia, *b*
- Datura, *a*
- Duranta, *s d*
- Elderberry, *s d*
- Everlastings, *a*
- Feverfew, *a* or *p*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, *p*
- Honeysuckle, *v e*
- Jasmine,
  - Day Blooming, *s d*
  - Grand Duke, *s e*
  - Maid of Orleans, *s e*
  - Night Blooming, *s d*
  - Sambac, *s e*
  - Spanish, *s e*
- Lemon Verbena, *s d*
- Lily, Goldband, *b*
  - Philippine, *b*
- Madeira-vine, *v p*
- Mallow, *p*
- Moonvine, *v a*
- Morning-Glory, *v a*
- Oleander, *s e*
- Perennial Phlox, *p*
- Periwinkle, *a*
- Petunia, *a*
- Plumbago, *p*
- Plumepoppy, *p*
- Portulaca, *a*
- Potatovine, *v p*
- Rain Lily, *b*
- Roses
- Silver-lace Vine, *v p*
- Tobacco, Flowering, *a*
- Torenia, *a*
- Tuberose, *b*
- Verbena, *p*
- Waterlily, *b*
- Willow, Flowering, *s d*
- Yucca, *s e*
- Zephyr Lily, *b*
- Zinnia, *a*

PINK AND ROSE

- Althea, *s d*
- Balsam, *a*
- Barbados Cherry, *s e*
- Begonia, Bedding, *a*
- Bignonia, *v p*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Confederate Rose, *s d*
- Coral Vine, *v p*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Dahlia, *b*
- Everlastings, *a*
- False-Dragonhead, *p*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Honeysuckle, *v e*
- Impatiens, sultani, *a*
- Lantana, *s d*
- Lycoris, *b*
- Lythrum, *p*
- Mallow, *p*
- Morning-Glory, *v a*
- Oleander, *s e*
- Perennial Phlox, *p*
- Periwinkle, *a*
- Petunia, *a*
- Portulaca, *a*
- Roses
- Spiderflower (Cleome), *a*
- Spirea, *s d*
- Verbena, *p*
- Waterlily, *b*
- Zephyr Lily, *b*
- Zinnia, *a*

RED

- Althea, *s d*
- Balsam, *a*
- Bean, Scarlet Runner, *v a*
- Begonia, Bedding, *a*
- Blanketflower, *a*
- Bougainvillea, *v e*
- Canna, *b*
- Cardinal Climber, *v a*
- Cockscomb, *a*
- Coneflower, *p*
- Coraltree, *t d*

- Crapemyrtle, *s* or *t d*
- Cypressvine, *v a*
- Dahlia, *b*
- Everlastings, *a*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Jacobinia, *s e*
- Lobelia, cardinalis, *p*
- Lycoris, *b*
- Mallow, *p*
- Morning-Glory, *v a*
- Oleander, *s e*
- Perennial Phlox, *p*
- Petunia, *a*
- Pomegranate, *s d*
- Portulaca, *a*
- Roses
- Salvia, Gregg, *s d*
  - Scarlet, *a*
- Shrimp Plant, *p*
- Spirea, *s d*
- Tithonia, *a*
- Tobacco, Flowering, *a*
- Turk's-cap, *s e*
- Verbena, *p*
- Waterlily, *b*
- Zinnia, *a*

YELLOW

- Allamanda, *v p*
- Balsam, *a*
- Blanketflower, *a*
- Butterflyweed, *p*
- Canna, *b*
- Cockscomb, *a*
- Coneflower, *p*
- Dahlia, *b*
- Everlastings, *a*
- Feverfew, *a* and *p*
- Four-o'clock, *p*
- Gerbera, *p*
- Goldenglow, *p*
- Goldenrod, *p*
- Hibiscus, Chinese, *s e*
- Jasmine, Floridum, *s e*
- Lantana, *s d*
- Lycoris, *b*
- Mallow, Giant Yellow, *p*
- Marigold, *a*
- Montbretia, *b*
- Oleander, *s e*
- Poinciana, *s d*
- Portulaca, *a*
- Roses
- St. John's-wort, *s d*
- Sunflower, *a* and *p*
- Waterlily, *b*
- Waterpoppy, *b*
- Zinnia, *a*

ORANGE

- Balsam, *a*
- Blanketflower, *a*
- Bougainvillea, *v e p*
- Butterflyweed, *p*
- Canna, *b*
- Coneflower, *p*
- Cosmos, Klondyke, *a*
- Dahlia, *b*
- Gerbera, *p*
- Hibiscus, Chinese, *s e*
- Impatiens, sultani, *a*
- Kniphofia, *b*
- Lantana, *s d*
- Marigold, *a*
- Montbretia, *b*
- Oleander, Mrs. Roeding, *s e*
- Portulaca, *a*
- Roses
- Trumpetvine, *v p*
- Zinnia, *a*

BLUE AND LAVENDER

- Ageratum, *a* or *p*
- Althea, *s d*
- Balloonflower, *p*
- Balsam, *a*
- Bluebell, Texas, *bn*
- Browallia, *a*
- Butterflybush, *s d*
- Chinese Forget-me-not, *a*
- Crapemyrtle, *s* or *t d*
- Dahlia, *b*
- Datura, *a*
- Duranta, *s d*
- False-Dragonhead, *p*
- Forget-me-not, *p*
- Globethistle, *a*
- Lantana, Weeping, *s d*
- Leucophyllum, *s e*
- Liriope, *b*
- Mistflower, *p*
- Morning-Glory, *v, a* and *p*
- Morning-Glory Tree, *s d*
- Nepeta, mussini, *p*
- Passionflower, *v p*
- Perennial Phlox, *p*
- Petunia, *a*
- Plumbago, *p*
- Potatovine, *v p*
- Salvia, *p*
- Thunbergia, *v p*
- Torenia, *a*
- Verbena, *p*
- Veronica, *p*
- Water-hyacinth, *p*
- Waterlily, *b*
- Willow, Flowering, *t d*
- Zinnia, *a*

PURPLE

- Balsam, *a*
- Bluebell, Texas, *bn*
- Bougainvillea, *v p*
- Bushclover, *s d*
- Cistus, Rockrose, *s e*
- Coneflower, *p*
- Crapemyrtle, *s* or *t d*
- Dahlia, *b*
- Everlastings, *a*
- Lythrum, *p*
- Morning-Glory, *v a*
- Perennial Phlox, *p*
- Petunia, *a*
- Salvia, *p*
- Verbena, *p*
- Waterlily, *b*
- Wisteria, Summer Blooming, *v e*
- Zinnia, *a*

September

> When summer gathers up her robes of glory,
> And like a dream of beauty glides away.
> —*Sarah Helen Whitman*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Alyssum, Sweet, *f* or *o*
- Arctotis, *f* or *o*
- Babysbreath, *f* or *o*
- Balsam, Garden, *f* or *o*
  - Sultan, *f* or *o*
- Bluebell, Texas, *f* or *o*
- Bluebonnet, *o*
- Calendula, *f*
- Candytuft, *o*
- Chinese Forget-me-not, *f* or *o*
- Cleome, *o*
- Cockscomb, *o*
- Coreopsis, *f* or *o*
- Cornflower, *f* or *o*
- Daisy, African
  - Golden, *f* or *o*
  - English, *f* or *o*
  - Shasta, *f* or *o*
- Delphinium, *f*
- Everlasting, *f* or *o*
- Four-o'clock, *o*
- Gayfeather, *o*
- Gerbera, *f*
- Hollyhock, *f*
- Laceflower, Blue, *f* or *o*
- Larkspur, *o*
- Lupine, *f*
- Mallow, *f* or *o*
- Pansy, *f*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Pinks, *f* or *o*
- Poppy, *o*
- Salpiglossis, *f*
- Salvia, Blue, *f* or *o*
- Scabiosa, *f* or *o*
- Snapdragon, *f* or *o*
- Stock, *f* or *o*
- Stokesia, *f*
- Sweet William, *f* or *o*
- Viola, *f*
- Wallflower, *f*

PLANTS *which may now be placed in the open ground*

- Ageratum
- Aspidistra
- Cosmos, Klondyke
- Dahlia, Dwarf
- False-dragonhead
- Four-o'clock
- Gerbera
- Lantana
- Lupine
- Marigold
- Petunia
- Phlox, Louisiana
- Portulaca
- Violet
- Zinnia

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Allium
- Amaryllis
- Anemone
- Banana
- Calla
- Camassia
- Chlidanthus
- Cooperia (Rain Lily)
- Dietes
- Gladiolus tristus
- Hemerocallis
- Iris, Bearded
  - Bulbous
  - Evansia
  - Kaempferi
  - Louisiana
  - Siberian
  - Spuria
  - Unguicularis (Winter Blooming)
- Ismene
- Ixia
- Leucojum
- Lilies, Centifolium
  - Creole
  - Croft
  - Estate
  - Madonna
  - Philippine
  - Regal
  - Speciosum
  - Sunset
  - Tiger
- Liriope
- Marica
- Muscari
- Ornithogalum
- Oxalis
- Ranunculus
- Scilla
- Tritonia
- Veltheimia (pots)
- Watsonia
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Beans, Lima
  - Dwarf snap
  - Pole
- Beets
- Broccoli
- Brussels sprouts
- Cabbage plants
- Carrots
- Cauliflower
- Celery
- Celtuce
- Chard, Swiss
- Chicory (French Endive)
- Chinese cabbage
- Collards
- Corn salad
- Cos (Romaine lettuce)
- Cress
- Endive
- Kale
- Kohlrabi
- Leeks
- Lettuce
- Mustard
- Onion, seeds, sets and plants
- Parsley
- Parsnips
- Peas, Blackeyed
  - Crowder
  - English
- Potatoes, Irish
- Radishes
- Roquette
- Rutabaga
- Salsify
- Spinach
- Squash
- Tendergreens
- Tomato plants
- Turnips

Azaleas: Check soil acidity.

Late September—a light application of nitrogen-free fertilizer may be used. (See "Winter Care," page 71)

Bluebonnets: Good month to sow seed.

Camellias: Water by deep soaking once a week or as needed.

Chrysanthemums: Give them applications of liquid manure or commercial fertilizer every two or three weeks until the flower buds appear; after that, once a week until the buds show color, and from then on, plain water as necessary. When buds first appear, if large flowers are desired, leave the center bud in each cluster and pinch off all lateral buds before they start stemming. This applies only to the large flowered and not to pompon, anemone-flowered, or singles. For garden display, pinch out the center bud and leave the others. Spray every ten days with Black-leaf 40 throughout the growing period until the splitting of the bud skin, then withhold. Take care not to allow water to fall on the buds, or the flowers may be blighted. (page 97)

Cultivation: With the first cool spell, clean up the beds, burning old stalks and leaves which may harbor insects. Add fertilizer if needed. Dust lightly with sulphur to combat fungus. Prepare beds or boxes into which pansy and other seedlings must go when first pricked out. (see Propagation, page 116)

Pansies: Not too late to plant.

Pests: Spray for scale, red spider on shrubs and plants.

Roses: Keep mulched and fed and watered. Pick infected leaves from bushes and ground, and burn. Cut out blind, dead and weak wood. As cool weather approaches water in the mornings, so that black spot and mildew will not be encouraged. Black spot must be *prevented* from entering the leaf tissues and a fungicide should be applied before the disease appears. Continue regular dust and spray schedule. (see Roses). Fall roses are often the finest of the year.

Violets: If not already divided, separate old clumps to single stems with roots. Reset, fertilize, and reap a wealth of early bloom.

PLANTS WHICH BLOOM IN SEPTEMBER

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Abelia, *s e*
- Ageratum, *a* or *p*
- Althea, *s d*
- Alyssum, Sweet, *a*
- Anemone, Japanese, *b*
- Balsam, *a*
- Begonia, Bedding, *a*
- Boltonia, *p*
- Browallia, *a*
- Butterfly Lily, *b*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Cistus, Rockrose, *s e*
- Clematis, *v p*
- Confederate Rose, *s d*
- Cosmos, Late, *a*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Cypressvine, *v a*
- Dahlia, *b*
- Datura, *s d*
- Duranta, *s d*
- Feverfew, *a* and *p*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, *p*
- Honeysuckle, *v e*
- Jasmine,
  - Day Blooming, *s d*
  - Grand Duke, *s e*
  - Maid of Orleans, *s e*
  - Night Blooming, *s d*
  - Sambac, *s e*
  - Spanish, *s e*
- Lantana, *s d*
- Lemon Verbena, *s d*
- Lily, Philippine, *b*
- Mallow, *p*
- Moonvine, *v a*
- Morning-Glory, *v a*
- Perennial Phlox, *p*
- Periwinkle, *a*
- Petunia, *a*
- Plumbago, *p*
- Plumepoppy, *p*
- Portulaca, *a*
- Potatovine, *v p*
- Rainlily, *b*
- Roses
- Silver-lace Vine, *v p*
- Tobacco, Flowering, *a*
- Torenia, *a*
- Tuberose, *b*
- Verbena, *p*
- Waterlily, *b*
- Zephyr Lily, *b*
- Zinnia, *a*

PINK AND ROSE

- Althea, *s d*
- Anemone, Japanese, *b*
- Balsam, *a*
- Barbados Cherry, *s e*
- Begonia, Bedding, *a*
- Bignonia, *v p*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Confederate Rose, *s d*
- Coral Vine, *v p*
- Cosmos, Late, *a*
- Crapemyrtle, *s* or *t d*
- Crinum, *b*
- Dahlia, *b*
- Forget-me-not, *p*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Honeysuckle, *v* or *s e*
- Impatiens, sultani, *a*
- Lantana, *s d*
- Lycoris, *b*
- Lythrum, *p*
- Mallow, *p*
- Morning-Glory, *v a*
- Perennial Phlox, *p*
- Periwinkle, *a*
- Petunia, *a*
- Portulaca, *a*
- Roses
- Spiderflower, *a*
- Spirea, *s d*
- Verbena, *p*
- Waterlily, *b*
- Zephyr Lily, *b*
- Zinnia, *a*

RED

- Althea, *s d*
- Anemone, Japanese, *b*
- Balsam, *a*
- Begonia, Bedding, *a*
- Blanketflower, *a*
- Bougainvillea, *v e*
- Canna, *b*
- Cardinal Climber, *v a*
- Cockscomb, *a*
- Cosmos, Late, *a*
- Crapemyrtle, *s* or *t d*
- Cypressvine, *v a*
- Dahlia, *b*
- Four-o'clock, *p*
- Geranium, *p*
- Gerbera, *p*
- Globe Amaranth, *a*
- Hibiscus, Chinese, *s e*
- Jacobinia, *s e*
- Lobelia, Cardinalis, *p*
- Lycoris, *b*
- Mallow, *p*
- Morning-Glory, *v a*
- Perennial Phlox, *p*
- Petunia, *a*
- Pomegranate, Dwarf, *s d*
- Portulaca, *a*
- Roses
- Salvia, Gregg, *s d*
  - Scarlet, *a*
- Shrimp Plant, *p*
- Spirea, *s d*
- Tithonia, *a*
- Tobacco, Flowering, *a*
- Turk's-cap, *s e*
- Verbena, *p*
- Waterlily, *b*
- Zinnia, *a*

YELLOW

- Allamanda, *v p*
- Balsam, *a*
- Blanketflower, *a*
- Butterflyweed, *p*
- Canna, *b*
- Cockscomb, *a*
- Dahlia, *b*
- Feverfew, *a* and *p*
- Four-o'clock, *p*
- Gerbera, *p*
- Goldenrod, *p*
- Hibiscus, Chinese, *s e*
- Jasmine, Floridum, *s e*
- Lantana, *s d*
- Lycoris, *b*
- Mallow, Giant Yellow, *p*
- Marigold, *a*
- Poinciana, *s d*
- Portulaca, *a*
- Roses
- St. John's-wort, *s d*
- Sunflower, *a* and *p*

- Torenia, *a*
- Waterlily, *b*
- Waterpoppy, *p*
- Zinnia, *a*

ORANGE

- Balsam, *a*
- Blanketflower, *a*
- Butterflyweed, *p*
- Canna, *b*
- Cosmos, Klondyke, *a*
- Dahlia, *b*
- Gerbera, *p*
- Hibiscus, Chinese, *s e*
- Impatiens, sultani, *a*
- Kniphofia, *b*
- Lantana, *s d*
- Leonotis, *s e*
- Marigold, *a*
- Oleander, Mrs. Roeding, *s e*
- Portulaca, *a*
- Roses
- Thunbergia, *v p*
- Trumpetvine, *v p*
- Zinnia, *a*

BLUE AND LAVENDER

- Ageratum, *a* or *p*
- Althea, *s d*
- Balsam, *a*
- Boltonia, *p*
- Browallia, *a*
- Butterflybush, *s d*
- Chinese Forget-me-not, *a*
- Cosmos, Late, *a*
- Crapemyrtle, *s* or *t d*
- Dahlia, *b*
- Datura, *s d*
- Duranta, *s d*
- Forget-me-not, *p*
- Lantana, Weeping, *s d*
- Leucophyllum, *s e*
- Liriope, *b*
- Mistflower, *p*
- Morning-Glory, *v*, *a* and *p*
- Morning-Glory Tree, *s d*
- Perennial Phlox, *p*
- Petunia, *a*
- Plumbago, *p*
- Potatovine, *v p*
- Salvia, *p*
- Torenia, *a*
- Verbena, *p*
- Veronica, *p*
- Water-hyacinth, *p*
- Waterlily, *b*
- Zinnia, *a*

PURPLE

- Balsam, *a*
- Bougainvillea, *v e*
- Cistus, Rockrose, *s e*
- Crapemyrtle, *s* or *t d*
- Dahlia, *b*
- Lythrum, *p*
- Morning-Glory, *v a*
- Perennial Phlox, *p*
- Petunia, *a*
- Salvia, *p*
- Verbena, *p*
- Waterlily, *b*
- Wisteria, Summer Flowering, *v e*
- Zinnia, *a*

October

> October is the opal month of the year. It is the month of glory, of ripeness. It is the picture-month.
>
> —*Beecher*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Alyssum, Sweet, *f* or *o*
- Arctotis, *f* or *o*
- Babysbreath, *f* or *o*
- Blanketflower, *f* or *o*
- Bluebell, Texas, *f* or *o*
- Bluebonnet, *o*
- Calendula, *f*
- Chinese Forget-me-not, *f* or *o*
- Coreopsis, *f* or *o*
- Cornflower, *f* or *o*
- Daisy, African
  - Golden, *f* or *o*
  - English, *f* or *o*
  - Shasta, *f* or *o*
- Delphinium, *f*
- Everlasting, *f* or *o*
- Forget-me-not, *f* or *o*
- Gerbera, *f*
- Godetia, *f*
- Hollyhock, *f* or *o*
- Laceflower, Blue, *f* or *o*
- Larkspur, *o*
- Mallow, *f* or *o*
- Pansy, *f*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Pinks, *f* or *o*
- Poppy, California, *o*
  - Iceland, *o*
  - Shirley, *o*
- Queen Anne's-lace, *f* or *o*
- Salpiglossis, *f*
- Salvia, Blue, *f* or *o*
- Scabiosa, *f* or *o*
- Sedum, *f*
- Snapdragon, *f* or *o*
- Stock, *f* or *o*
- Stokesia, *f*
- Sweet Pea, Early, *o*
- Sweet William, *f* or *o*
- Viola, *f*
- Wallflower, *f*

PLANTS *which may now be placed in the open ground*

- Ageratum
- Alyssum, Sweet
- Aspidistra
- Bluebonnet
- Calendula
- Candytuft
- Coreopsis
- Cornflower
- Daisy, English
  - Shasta
- Delphinium
- Forget-me-not
- Four-o'clock
- Gerbera
- Hollyhock
- Pansy
- Petunia
- Phlox, Drummond
  - Louisiana
  - Perennial
- Physostegia
- Pinks
- Salvia, Blue
- Shrimp Plant
- Snapdragon
- Stock
- Sweet William
- Verbena
- Viola
- Violet
- Wallflower

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Agapanthus
- Allium
- Alstroemeria
- Amarcrinum
- Amaryllis
- Anemone
- Banana
- Calla
- Camassia
- Chlidanthus
- Clivia (pots)
- Cooperia
- Crinum
- Dietes
- Ginger
- Gladiolus
- Hemerocallis
- Iris, all kinds
- Ismene
- Ixia
- Leucojum
- Lilies, Centifolium
    - Creole
    - Croft
    - Estate
    - Goldband
    - Madonna
    - Philippine
    - Regal
    - Speciosum
    - Sunset
    - Tiger
- Liriope
- Lycoris
- Marica
- Milla
- Montbretia
- Muscari
- Narcissus
- Ornithogalum
- Oxalis
- Ranunculus
- Scilla
- Sparaxis
- Strelitzia
- Tulbaghia
- Veltheimia (pots)
- Watsonia
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Beans, Snap
    - Pole
    - Lima
- Beets
- Broccoli
- Brussels sprouts
- Cabbage plants
- Carrots
- Cauliflower plants
- Celery
- Celtuce
- Chard, Swiss
- Chicory (French endive)
- Chinese cabbage
- Collard
- Corn salad
- Cos
- Cress
- Eggplant plants
- Endive
- Horseradish roots
- Kale
- Kohlrabi
- Leeks
- Lettuce
- Mustard
- Onion, seeds, sets and plants
- Parsley
- Parsnips
- Peas, English
- Potatoes, Irish
- Radishes
- Roquette
- Rutabaga
- Salsify
- Shallots
- Spinach
- Strawberry plants
- Tendergreens
- Turnips

BULBS: Spring flowering bulbs may be planted now.

CAMELLIAS: Before October 15th spray for tea scale if necessary.

FORGET-ME-NOTS: New plants or divisions may be placed in the beds from now until April. If a bed is already established, clumps may be removed and the empty places should be filled with manure as forget-me-nots are greedy feeders. They should be planted where they can have sun for part of the day, with very little east shade, although with care they will bloom in semi-sun. They bloom freely from April through October, although most abundant flowering period is in May. They will thrive better if in a bed or border to themselves, as they form a dense mat. Water freely during very hot weather and throughout their blooming season, as in their native regions they are found growing by running water. Although they will stand a good deal of cold, if in danger of freezing, they should be protected with leaves which should be removed as the weather warms.

FROST: Be prepared to protect against frost from now on.

IRIS: Fertilize existing beds with well rotted manure or a balanced fertilizer. Plant all kinds.

LILIES: Plant now. See list above.

PANSIES: Although the blooming period will be shorter, pansy seed may still be planted, but must not be expected to bloom before February. Young plants from earlier sowing should be placed in the bed now.

Perennials: Cut tops when blooming period is over; divide roots and transplant. This may be done at any time from now until March, but the sooner the early-blooming varieties are moved, the earlier and more satisfactory will be their blooms.

Sweet Peas: Plant the early-blooming varieties this month. Plant with petunias for a ground cover obtaining a beautiful bank of bloom. Watch for red spider.

Watering: Water now in the morning to avert fungus disease. Avoid wetting bloom and foliage.

Wisteria: Root-prune wisteria that has failed to bloom, to encourage flowering the following spring. Cut through the roots with a spade in a circle about thirty inches from the stem of the vine, and feed with bone meal through this cut.

PLANTS WHICH BLOOM IN OCTOBER

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

Ageratum, *a* or *p*
Alyssum, Sweet, *a*
Anemone, Japanese, *b*
Balsam, *a*
Begonia, Bedding, *a*
Boltonia, *p*
Butterfly Lily, *b*
Canna, *b*
Chinese
  Forget-me-not, *a*
Chrysanthemums, *p*
Clematis, *v p*
Confederate Rose, *s d*
Cosmos, Late, *a*
Crinum, *b*
Cypressvine, *v a*
Dahlia, *b*
Forget-me-not, *p*
Four-o'clock, *p*
Geranium, *p*
Gerbera, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Hibiscus, *p*
Honeysuckle, *v e*
Jasmine,
  Day Blooming, *s d*
  Grand Duke, *s e*
  Maid of Orleans, *s e*
  Night Blooming, *s d*
  Sambac, *s e*
  Spanish, *s e*
Lantana, *s d*
Mallow, *p*
Michaelmas Daisy, *p*
Moonvine, *v a*
Morning-Glory, *v a*
Perennial Phlox, *p*
Periwinkle, *a*
Petunia, *a*
Plumbago, *p*
Plumepoppy, *p*
Potatovine, *v p*
Roses
Scabiosa, *a*, *bn* and *p*
Silver-lace Vine, *v p*
Tobacco, Flowering, *a*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

PINK AND ROSE

Anemone, Japanese, *b*
Balsam, *a*
Barbados Cherry, *s e*
Begonia, Bedding, *a*
Bignonia, *v p*
Canna, *b*
Chinese
  Forget-me-not, *a*
Chrysanthemums, *p*
Confederate Rose, *s d*
Coral Vine, *v p*
Cosmos, Late, *a*
Crinum, *b*
Dahlia, *b*
Forget-me-not, *p*
Geranium, *p*
Gerbera, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Hibiscus, Chinese, *s e*
Honeysuckle, *v* or *s e*
Impatiens, sultani, *a*
Lantana, *s d*
Lycoris, *b*
Mallow, *p*
Michaelmas Daisy, *p*
Morning-Glory, *v a*
Perennial Phlox, *p*
Periwinkle, *a*
Petunia, *a*
Roses
Scabiosa, *a*, *bn* and *p*
Spiderflower, *a*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

RED

Anemone, Japanese, *b*
Balsam, *a*
Begonia, Bedding, *a*
Blanketflower, *a*
Bougainvillea, *v e*
Canna, *b*
Cardinal Climber, *v a*
Chrysanthemums, *p*
Cockscomb, *a*
Cosmos, Late, *a*
Cypressvine, *v a*
Dahlia, *b*
Four-o'clock, *p*
Geranium, *p*
Gerbera, *p*
Gladiolus, *b*
Globe Amaranth, *a*
Hibiscus, Chinese, *s e*
Lobelia, Cardinalis, *p*
Mallow, *p*
Morning-Glory, *v a*
Perennial Phlox, *p*
Petunia, *a*
Pomegranate,
  Dwarf, *s d*
Roses
Salvia, Gregg, *s d*
  Scarlet, *a*
Scabiosa, *a*, *bn* and *p*
Shrimp Plant, *p*
Tithonia, *a*
Tobacco, Flowering, *a*
Turk's-cap, *s e*
Verbena, *p*
Waterlily, *b*
Zinnia, *a*

YELLOW

Balsam, *a*
Blanketflower, *a*
Canna, *b*
Chrysanthemums, *p*
Cockscomb, *a*
Dahlia, *b*
Daisy, African
  Golden, *a*
Gerbera, *p*
Gladiolus, *b*
Hibiscus, Chinese, *s e*
Jasmine, floridum, *s e*
Lantana, *s d*
Lycoris Aurea, *b*

- Marigold, *a*
- Pansy, *a*
- Roses
- Scabiosa, *a, bn* and *p*
- Waterlily, *b*
- Waterpoppy, *p*
- Zinnia, *a*

ORANGE

- Balsam, *a*
- Blanketflower, *a*
- Bougainvillea, *v p e*
- Canna, *b*
- Chrysanthemums, *p*
- Cosmos, Klondyke, *a*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, Chinese, *s e*
- Lantana, *s d*
- Marigold, *a*
- Pansy, *a*
- Roses
- Thunbergia, *v a*
- Zinnia, *a*

BLUE AND LAVENDER

- Ageratum, *a* or *p*
- Balsam, *a*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Dahlia, *b*
- Forget-me-not, *p*
- Gladiolus, *b*
- Lantana, Weeping, *s d*
- Michaelmas Daisy, *p*
- Morning-Glory Tree, *s d*
- Pansy, *a*
- Petunia, *a*
- Pinks, *a, bn*
- Plumbago, *p*
- Potatovine, *v p*
- Salvia, *p*
- Scabiosa, *a, bn* and *p*
- Thunbergia, *v p*
- Verbena, *p*
- Water-hyacinth, *p*
- Waterlily, *b*
- Zinnia, *a*

PURPLE

- Balsam, *a*
- Bougainvillea, *v e p*
- Chrysanthemums, *p*
- Cistus, Rockrose, *s e*
- Dahlia, *b*
- Gladiolus, *b*
- Michaelmas Daisy, *p*
- Pansy, *a*
- Petunia, *a*
- Scabiosa, *a, bn* and *p*
- Verbena, *p*
- Violet, *p*
- Waterlily, *b*
- Zinnia, *a*

November

The tints of autumn—a mighty
flower garden, blossoming under
the spell of the enchanter, Frost.
—*Whittier*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Alyssum, Sweet, *f* or *o*
- Arctotis, *f* or *o*
- Babysbreath, *f* or *o*
- Blanketflower, *f* or *o*
- Bluebell, Texas, *f* or *o*
- Bluebonnet, *o*
- Calendula, *f*
- Candytuft, *o*
- Chinese Forget-me-not, *f* or *o*
- Cleome, *o*
- Coreopsis, *f* or *o*
- Cornflower, *f* or *o*
- Daisy, African
    - Golden, *f* or *o*
    - English, *f* or *o*
    - Shasta, *f* or *o*
- Delphinium, *f*
- Everlasting, *f* or *o*
- Forget-me-not, *o*
- Four-o'clock, *o*
- Gerbera, *f*
- Hollyhock, *f* or *o*
- Laceflower, Blue, *f* or *o*
- Larkspur, *o*
- Lobelia, *f*
- Mallow, *f* or *o*
- Pansy, *f*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Pinks, *f* or *o*
- Poppy, California, *o*
    - Iceland, *o*
    - Shirley, *o*
- Queen Anne's-lace, *f* or *o*
- Salpiglossis, *f*
- Salvia, Blue, *f* or *o*
- Scabiosa, *f* or *o*
- Snapdragon, *f* or *o*
- Stock, *f* or *o*
- Sweet Pea, Early, *o*
    - Late, *o*
- Sweet William, *f* or *o*
- Verbena, *f* or *o*
- Viola, *f*
- Wallflower, *f*

PLANTS *which may now be placed in the open ground*

- Alyssum, Sweet
- Arctotis
- Aspidistra
- Bluebonnet
- Calendula
- Candytuft
- Coreopsis
- Cornflower
- Daisy, English
    - Shasta
- Delphinium
- Forget-me-not
- Four-o'clock
- Gerbera
- Hollyhock
- Honeysuckle
- Larkspur
- Lobelia
- Lupine
- Pansy
- Penstemon
- Petunia
- Phlox, Drummond
    - Louisiana
    - Perennial
- Pinks
- Queen Anne's-lace
- Salvia, Blue
- Shrimp Plant
- Snapdragon
- Stock
- Sweet William
- Verbena
- Viola
- Violet

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Agapanthus
- Allium
- Alstroemeria
- Amarcrinum
- Amaryllis
- Anemone
- Calla
- Camassia
- Chlidanthus
- Clivia (pots)
- Cooperia
- Crinum
- Dietes
- Gladiolus tristus
- Habranthus
- Hemerocallis
- Hyacinth, Roman
- Iris, Evansia
    - Bearded
    - Louisiana
    - Unguicularis
- Ismene
- Ixia
- Lachenalia (Cape Cowslip)
- Leucojum
- Lilies, all kinds
- Liriope
- Lycoris
- Marica
- Milla
- Montbretia
- Muscari
- Narcissus
- Ornithogalum
- Oxalis
- Ranunculus
- Scilla
- Sisyrinchium (Blue-eyed Grass)
- Sparaxis
- Tulbaghia
- Watsonia
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Beets
- Broccoli plants
- Brussels sprouts
- Cabbage plants
- Carrots
- Cauliflower plants
- Celery
- Celtuce
- Chard, Swiss
- Chicory
- Chinese Cabbage
- Collards
- Corn salad
- Cos
- Cress
- Endive
- Horseradish roots
- Kale
- Kohlrabi
- Leeks
- Lettuce
- Mustard
- Onion, seeds, sets and plants
- Parsley
- Parsnips
- Peas, English
- Radishes
- Roquette
- Rutabaga
- Salsify
- Shallots
- Spinach
- Strawberry plants
- Tendergreens
- Turnips

Azaleas and Camellias: Plants may be moved. Keep moist to lessen cold weather damage.

Bulbs: *Hyacinths* may be planted now. Cut off and burn all old foliage of *summer-blooming iris,* for it has finished storing the rhizome with nourishment and now only harbors disease. Dig in a little bone meal around the roots. *Tulips* should be put in the refrigerator now to remain at least three weeks. This will induce them to produce a strong system of roots which, in turn, will produce better flowers. Poor flowering in bulbs is usually the result of insufficient root development.

Cultivation: Clear away dead annuals and cut back dead perennial tops. Thin out and transplant volunteer seedlings. If changes in design are contemplated, begin to execute them now, recalling that winter rains are apt to fall in late December. Beds made now will profit by weathering before being planted. If soil is heavy, dig six inches deep, leave rough, cover with leaves or strawy manure to lighten it and allow to mellow all winter. When this is forked-in in February or March, the beds will be ideally prepared for planting. Shrubs, bulbs and ferns will thrive in them.

Forget-Me-Nots: These may still be divided and reset from now through March, with little loss of bloom.

Fruit Trees: These and *flowering shrubs,* deciduous and evergreen, may be planted now.

Leaves: Save all healthy leaves for compost.

Lilies-of-the-Valley: Pips may be forced to bloom for Christmas by planting in sand or sphagnum moss in a shallow bowl. Keep moist and put in a dark room. Allow to grow 4 inches high, bring gradually to the light. They should bloom about 25 days after planting.

Pansies: May still be placed in the beds with the certainty of a long blooming period.

Perennials: As chrysanthemums and other perennials finish blooming, cut flowering stalks to the ground. This permits all the strength to be used in making root growth. Those raised from seed planted in early fall should now be well established. Pinch off the tops of *calendula, delphinium, snapdragon, stock* and *wallflower,* to induce bushy growth and prevent flowers from forming so early that they may be destroyed by frost. Cultivate lightly.

Violets: Manure heavily any time between now and March 15 for a full harvest of bloom.

PLANTS WHICH BLOOM IN NOVEMBER

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Ageratum, *a* or *p*
- Alyssum, Sweet, *a*
- Balsam, *a*
- Camellia, Japonica, *s e*
  - Sasanqua, *s e*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Clematis, *v p*
- Confederate Rose, *s d*
- Crinum, *b*
- Dahlia, *b*
- Forget-me-not, *p*
- Geranium, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, *p*
- Honeysuckle, *v e*
- Jasmine,
  - Day Blooming, *s d*
  - Grand Duke, *s e*
  - Maid of Orleans, *s e*
  - Night Blooming, *s d*
  - Sambac, *s e*
  - Spanish, *s e*
- Lantana, *s d*
- Loquat, *s e*
- Michaelmas Daisy, *p*
- Pansy, *a*
- Periwinkle, *a*
- Petunia, *a*
- Pinks, *a, bn*
- Plumbago, *p*
- Potatovine, *v p*
- Roses
- Scabiosa, *a, bn* and *p*
- Silver-lace Vine, *v p*
- Sweet Olive, *s e*
- Verbena, *p*
- Waterlily, *b*
- Zinnia, *a*

PINK AND ROSE

- Balsam, *a*
- Barbados Cherry, *s e*
- Canna, *b*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Confederate Rose, *s d*
- Crinum, *b*
- Dahlia, *b*
- Forget-me-not, *p*
- Geranium, *p*
- Gerbera, *p*
- Hibiscus, Chinese, *s e*
- Honeysuckle, *v* or *s e*
- Lantana, *s d*
- Michaelmas Daisy, *p*
- Periwinkle, *a*
- Petunia, *a*
- Pinks, *a, bn*
- Roses
- Scabiosa, *a, bn* and *p*
- Verbena, *p*
- Waterlily, *b*
- Zinnia, *a*

RED

- Balsam, *a*
- Blanketflower, *a*
- Bougainvillea, *v e p*
- Canna, *b*
- Cardinal Climber, *v a*
- Chrysanthemums, *p*
- Cockscomb, *a*
- Dahlia, *b*
- Geranium, *p*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, Chinese, *s e*
- Pansy, *a*
- Petunia, *a*
- Pinks, *a, bn*
- Poinsettia, *s d*
- Pomegranate, Dwarf, *s d*
- Roses
- Salvia, Scarlet, *a*
- Scabiosa, *a, bn* and *p*
- Shrimp Plant, *p*
- Turk's-cap, *s e*
- Verbena, *p*
- Zinnia, *a*

YELLOW

- Balsam, *a*
- Blanketflower, *a*
- Calendula, *a*
- Canna, *b*
- Chrysanthemums, *p*
- Cockscomb, *a*
- Dahlia, *b*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, Chinese, *s e*
- Jasmine, floridum, *s e*
- Lantana, *s d*
- Marigold, *a*
- Pansy, *a*
- Roses
- Scabiosa, *a, bn* and *p*
- Waterlily, *b*
- Waterpoppy, *p*
- Zinnia, *a*

ORANGE

- Balsam, *a*
- Blanketflower, *a*
- Bougainvillea, *v e p*
- Calendula, *a*
- Canna, *b*
- Chrysanthemums, *p*
- Cosmos, Klondyke, *a*
- Dahlia, *b*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Gladiolus, *b*
- Hibiscus, Chinese, *s e*
- Lantana, *s d*
- Marigold, *a*
- Pansy, *a*
- Roses
- Zinnia, *a*

BLUE AND LAVENDER

- Ageratum, *a* or *p*
- Balsam, *a*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Dahlia, *b*
- Eranthemum, *s*
- Forget-me-not, *p*
- Gladiolus, *b*
- Lantana, Weeping, *s d*
- Michaelmas Daisy, *p*
- Morning-Glory Tree, *s d*
- Pansy, *a*
- Petunia, *a*
- Pinks, *a, bn*
- Plumbago, *p*
- Potatovine, *v p*
- Salvia, *p*
- Scabiosa, *a, bn* and *p*
- Verbena, *p*
- Water-hyacinth, *p*
- Waterlily, *b*
- Zinnia, *a*

PURPLE

- Balsam, *a*
- Bougainvillea, *v e p*
- Chrysanthemums, *p*
- Cistus, Rockrose, *s e*
- Dahlia, *b*
- Gladiolus, *b*
- Michaelmas Daisy, *p*
- Pansy, *a*
- Petunia, *a*
- Scabiosa, *a, bn* and *p*
- Verbena, *p*
- Violet, *p*
- Waterlily, *b*
- Zinnia, *a*

December

Boughs are daily rifled
By the gusty thieves,
And the book of Nature
Getteth short of leaves.
—*Hood.*

SEEDS *which may now be sown in flats (f) or open ground (o)*

- Alyssum, Sweet *f* or *o*
- Arctotis, *f* or *o*
- Babysbreath, *f* or *o*
- Blanketflower, *f* or *o*
- Bluebell, Texas, *f* or *o*
- Bluebonnet, *o*
- Calendula, *f*
- Candytuft, *o*
- Chinese Forget-me-not, *f* or *o*
- Cleome, *o*
- Coreopsis, *f* or *o*
- Cornflower, *f* or *o*
- Daisy, African
  - Golden, *f* or *o*
  - English, *f* or *o*
  - Shasta, *f* or *o*
- Everlasting, *f* or *o*
- Forget-me-not, *o*
- Four-o'clock, *o*
- Gerbera, *f*
- Hollyhock, *f*
- Larkspur, *o*
- Lobelia, *f*
- Mallow, *f* or *o*
- Petunia, *f* or *o*
- Phlox, Drummond, *o*
- Pinks, *f* or *o*
- Poppy, California, *o*
  - Shirley, *o*
- Salvia, Blue, *f* or *o*
- Salpiglossis, *f*
- Scabiosa, *f* or *o*
- Snapdragon, *f* or *o*
- Stock, *f* or *o*
- Sweet Pea, Early, *o*
  - Late, *o*
- Sweet William, *f* or *o*
- Verbena, *f* or *o*
- Wallflower, *f*

PLANTS *which may now be placed in the open ground*

- Alyssum, Sweet
- Arctotis
- Aspidistra
- Bluebonnet
- Calendula
- Candytuft
- Coreopsis
- Cornflower
- Daisy, English
  - Shasta
- Delphinuim
- Forget-me-not
- Four-o'clock
- Gerbera
- Hollyhock
- Honeysuckle
- Larkspur
- Lobelia
- Pansy
- Petunia
- Phlox, Drummond
  - Louisiana
  - Perennial
- Physostegia
- Pinks
- Queen Anne's-lace
- Salvia, Blue
- Shrimp Plant
- Snapdragon
- Verbena
- Viola
- Violet
- Wallflower

BULBS, TUBERS, RHIZOMES *which may now be placed in the open ground*

- Agapanthus
- Allium
- Alstroemeria
- Amarcrinum
- Amaryllis
- Anemone
- Billbergia
- Blackberry Lily
- Calla
- Camassia
- Chlidanthus
- Clivia (pots)
- Cooperia
- Crinum
- Dietes
- Gloriosa
- Hemerocallis
- Hyacinth
- Hymenocallis
- Iris, Bulbous
  - Spuria
  - Louisiana
- Ixia
- Jack-in-the-Pulpit
- Kniphofia
- Lachenalia
- Leucojum
- Lily-of-the-Valley (pots)
- Liriope
- Marica
- Milla
- Montbretia
- Muscari
- Lycoris
- Narcissus
- Ornithogalum
- Oxalis
- Ranunculus
- Scilla
- Sisyrinchium
- Sprekelia
- Tulbaghia
- Tulip
- Water Hyacinth
- Waterlily
- Zephyranthes

VEGETABLES *which may now be sown in open ground*

- Asparagus roots
- Beets
- Broccoli
- Brussels sprouts
- Cabbage
- Carrots
- Cauliflower plants
- Celtuce
- Chard, Swiss
- Chicory
- Chinese cabbage
- Chives
- Collards
- Corn salad
- Cos
- Cress
- Endive
- Kale
- Kohlrabi
- Lettuce
- Mustard
- Onion, seeds, sets and plants
- Parsley
- Parsnips
- Peppers
- Radishes
- Roquette
- Rutabaga
- Salsify
- Shallot plants
- Spinach
- Tendergreens
- Tomatoes
- Turnips

Azaleas and Camellias: Plants may be moved. Keep moist to lessen cold weather damage.

Bulbs: Last month to plant early blossoming spring bulbs, speciosum and other varieties of lilies.

Cultivation: A season of heavy garden work begins this month. If it is not already attended to, clean up beds where fall flowers have bloomed and remake. Plants too deeply set may now be raised. Dig and leave in rough clods those beds which may remain unplanted for a time, that they may profit by the action of frost and sun. Prepare new beds now, to allow time for settling before being planted. As the *leaves* fall, add them to the compost heap (page 46), but burn all diseased or bug-infested refuse.

Maidenhair: Even if frozen it will come back from the roots in the spring. Allow fallen leaves to remain on the bed as a mulch.

Pansies: If long flowering period is desired, plants should be placed in their permanent beds not later than this month.

Roses, Shrubs and Trees: This month and the next two are considered best for planting roses, shrubs and trees.

Tulips: Take tulips out of cold storage and plant.

Watering: Keep evergreens well watered to prevent damage from freezing.

PLANTS WHICH BLOOM IN DECEMBER

t—Tree *s*—Shrub *v*—Vine *b*—Bulb, Tuber or Rhizome *e*—Evergreen
d—Deciduous *p*—Perennial *bn*—Biennial *a*—Annual

WHITE

- Alyssum, *a*
- Calla, *b*
- Camellia, Japonica, *s e*
  - Sasanqua, *s e*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Elaeagnus, *s e*
- Forget-me-not, *p*
- Gerbera, *p*
- Honeysuckle, *s d*
- Iris, unguicularis, *b*
- Jasmine, *v e*
- Loquat, *s e*
- Michaelmas Daisy, *p*
- Narcissus, *b*
- Oxalis, *b*
- Pansy, *a*
- Pinks, *a, bn*
- Plumbago, *p*
- Quince, Japanese Flowering, *s d*
- Roses
- Sweet Olive, *s e*
- Sweet Pea, Early, *a*
- Viola, *a*

PINK AND ROSE

- Camellia, Japonica, *s e*
  - Sasanqua, *s e*
- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Forget-me-not, *p*
- Gerbera, *p*
- Michaelmas Daisy, *p*
- Oxalis, *b*
- Pinks, *a, bn*
- Quince, Japanese Flowering, *s d*
- Roses
- Sweet Pea, Early, *a*

RED

- Bougainvillea, *v e p*
- Chrysanthemums, *p*
- Camellia, Japonica, *s e*
- Gerbera, *p*
- Pansy, *a*
- Pinks, *a, bn*
- Poinsettia, *s d*
- Quince, Japanese Flowering, *s d*
- Roses
- Salvia, Scarlet, *a*
- Sweet Pea, Early, *a*
- Turk's-cap, *s e*

YELLOW

- Calendula, *a*
- Chrysanthemums, *p*
- Cockscomb, *a*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Jasmine, floridum, *s e*
- Narcissus, *b*
- Oxalis, *b*
- Pansy, *a*
- Roses
- Sweet Pea, Early, *a*
- Viola, *a*

ORANGE

- Bougainvillea, *v e p*
- Calendula, *a*
- Chrysanthemums, *p*
- Daisy, African Golden, *a*
- Gerbera, *p*
- Pansy, *a*
- Roses

BLUE AND LAVENDER

- Chinese Forget-me-not, *a*
- Chrysanthemums, *p*
- Eranthemum, *s*
- Forget-me-not, *p*
- Iris, stylosa, *b*
- Lantana, Weeping, *s d*
- Michaelmas Daisy, *p*
- Oxalis, *b*
- Pansy, *a*
- Pinks, *a, bn*
- Plumbago, *p*
- Salvia, *p*
- Sweet Pea, Early, *a*
- Thunbergia, *v p*
- Viola, *a*

PURPLE

- Bougainvillea, *v e p*
- Chrysanthemums, *p*
- Michaelmas Daisy, *p*
- Pansy, *a*
- Sweet Pea, Early, *a*
- Viola, *a*
- Violet, *p*

Design in the Garden

When we mean to build,
We first survey the plot, then draw the model.—Shakespeare.

A well designed garden fulfills several basic requirements. It frames and complements the house; it provides a practical screened service area, and it answers the outdoor living needs of the family. These objectives are best accomplished by the exercise of forethought in planning before planting. Diligent efforts are frequently wasted because of the lack of a definite, well-conceived plan. The principles of good landscape design are the same for large and small properties. The degree of formality depends upon the architectural character of the house. Availability of help for maintenance should also be a determining factor in deciding upon the extent of formal gardens; woodland areas, generally, being more easily maintained.

IMPORTANCE OF A PLAN

A plan should be worked out on paper (preferably on ruled, scale paper), in order that the site with its various features may be considered as an efficient whole. The most important and practical requirements are the approach, living and recreation areas, and purely utilitarian or service area. Include in the plan all existing trees, variations in ground level, and any offending feature of nearby property which needs screening. A necessary preliminary to planning is the laying down of vistas and axial lines which form the framework of the design. Doors and windows should be indicated on the plan, as the views from them will govern the design to a considerable extent. The convenient location of drives and walks is most important as, when carelessly placed, they interfere with the arrangement of other areas and spaces. By making a plan on paper, it is possible to rearrange areas until they are definitely in the most convenient locations.

PROFESSIONAL ADVICE

In order to prevent mistakes involving time, effort and money, it is advisable to have some degree of professional advice. The ideal plan is, of course, to have a good landscape architect completely design and supervise the planting. A less expensive arrangement is to have an architect make a complete and permanent plan for the grounds, which the owner can budget and carry out, under his own supervision, over a period of three, five, or ten years. Less expensive still is a concentrated verbal consultation with a landscape architect on a per diem fee. Regardless of whether an architect is employed or not, it is an excellent plan to consult some of the good standard books on landscape design, in order to gain a clearer understanding of the importance of proportion, mass, perspective, and plant material.

Soils and Soil Improvement

To the solid ground of nature trusts the
mind that builds for aye.—Wordsworth

Every gardener should have some understanding of the physical, chemical and biological make-up of the soil. In the past, it was the common practice to remove the natural soil from garden plots and replace it with a supposedly improved type. Fortunately, today this practice is seldom recommended because experiments have proved that it is usually cheaper and more advisable to condition the native soil than to replace it. The gardener must maintain or increase the fertility of the soil to the varied needs of the plants to be grown.

SOIL TESTING

The chemical deficiencies can only be properly determined by testing the soil. This should always be done before attempting to change the acidity in any way. Soil reaction testing kits, if used according to directions, are reasonably accurate and reliable. For the average gardener, however, it is much simpler to send a soil sample to the State Experiment Station or to the Soils Department of the State Agricultural College. In general, when taking a soil sample, remove a thin slice of soil from a hole 6 or 7 inches deep. However, the depth should be determined by the zone of feeding roots of various plants. A sample taken from a three-inch depth is sufficient for azaleas; 18 to 20 inches for camellias; and 12 inches for roses. A half-cup of soil is ample for this purpose and should be thoroughly dried before mailing in an air-tight container. The Station, or College, is equipped to test soils and will recommend the necessary treatment for correcting acidity or alkalinity.

ACIDITY

The degree of acidity or alkalinity in the soil is indicated by the barometer-like *p*H scale (hydrogen ion concentration), which ranges from 1 to 14. A *p*H of 7 is neutral; higher *p*H values are increasingly alkaline, while lower values are increasingly acid in nature. Soils which are too acid or too alkaline will seriously retard or kill plant growth. Tests reveal that the soil of Houston is alkaline, about 7.5 *p*H value. The constant use of strongly alkaline water is a further neutralizing factor in Houston, where most garden plants, vegetables and ornamentals prefer a soil which is slightly acid. Soils are usually acidified by the application of magnesium sulphate or sulphur, used according to directions for lowering the *p*H value to the desired degree. Magnesium sulphate is quick acting, showing effect in about ten days, while sulphur takes much longer, even when finely powdered dusting sulphur is used. Common powdered sulphur takes from three to six months to produce desired results.

An excellent recommendation for acidifying soil is a mixture of equal parts of:

Powdered sulphur
Iron sulphate (copperas)
Magnesium sulphate
Ammonium sulphate

One pound of this mixture scattered over the surface of 100 feet of ground, will lower the *p*H one-half point down to *p*H 6. Below this point, it takes less to increase the acidity. This mixture may be raked in but it is not necessary. The mixture may be applied at any time of the year, but the fall or early spring will obtain best results.

A two or three inch mulch of organic material (peat moss, pine needles, etc.) will maintain an acid soil condition. (See Mulches, page 71.) If soil is too strongly acid, it may be neutralized by adding bonemeal, lime, wood ashes or limestone sand.

BASIC SOIL COMPOSITION

All good garden soil is divided into three parts: *clay, sand* and *humus*. The proportions of the divisions and the size of the particles that make up the first two components determine the nature and quality of the soil. A good soil analysis will enable one to build up a correct balance.

Properly handled, *clay* is one of the most productive garden soils, because it retains moisture and plant nutrients for a long time. Plants adapted to clay soils are usually moisture-loving or ericaceous (acid-tolerant). Because clay soil becomes hard and compact when dried out, and sticky and pasty when wet, the soil should be made friable by the incorporation of sand and quantities of humus. Vermiculite (expanded mica) is a soil conditioner which acts like sand and is useful in heavy clay soils to separate soil particles into a porous mass.

Sandy soil affords excellent drainage and is especially adapted to bulb culture. Since the soil is very porous, it does not retain moisture, but dries out and warms up quickly. The addition of clay and some form of humus as a soil conditioner is very beneficial. Green-manuring may also be employed to advantage on sandy soil. Plants adapted to sandy soils are usually very hardy, with large root systems, and are often drought resistant.

HUMUS

Humus has a distinctly beneficial effect on the physical make-up of the soil. The addition of humus improves texture, as it has the ability to modify the structure to a marked degree, loosening the soil by admitting air and moisture, and giving body to sandy soil. Humus is most important to soil fertility because it supplies organic food, prevents the leaching of soluble plant food, and is an excellent medium for the growth of soil bacteria. Humus may be applied in the form of manure, peat moss, compost, leafmold, oak sawdust, cottonseed meal and hulls, chopped corn cobs and corn fodder, tankage and lawn clippings.

ESSENTIAL SOIL ELEMENTS

Although many elements are necessary for plant growth in a good garden soil, the three most essential ones are *nitrogen, phosphorus* and *potassium*. The presence or absence of these elements is easily determined by a soil analysis or by observing deficiency symptoms.

Nitrogen is the foliage producing element responsible for the healthy deep green color of shrubs, plants and grass. It is especially beneficial when plants are making buds, for it will increase the size of the flowers and insure a deeper color. The main inorganic sources of nitrogen are nitrate of soda and ammonium phosphate (ammophos), while the organic sources are cottonseed meal and dried blood. A deficiency of nitrogen is indicated by the yellowish-green leaf color, while an excess reduces the development of flowers and fruit and produces a soft, unhealthy growth.

Phosphorus stimulates root growth, hastens maturity, and promotes good seed and flower formation. Practically all garden plants, shrubs and bulbs need phosphorus to maintain abundant flower production. Superphosphate is the most commonly used inorganic source of phosphorus, while bonemeal is the organic source. Deficiency of this element is usually indicated by low vigor in the plants, weak stems and few flowers.

Potassium, commonly called potash, strengthens plants and enables them to resist diseases and insects more readily. Potassium chloride and potassium sulphate are highly concentrated inorganic sources of potassium, while wood ashes are a less concentrated organic source.

FERTILIZERS

Most soils require a blending of all three of the essential elements, thus creating the need of *organic* and *inorganic fertilizers*. Although the function of the two is different, they complement each other. In the case of inorganic or commercial fertilizers, certain chemicals are put into the soil for a relatively quick and sure return so far as the immediate crop is concerned. Organic fertilizers of various sorts are derived from plant and animal substances and have a more lasting effect on the soil. In applying either type of fertilizer, never allow it to touch any part of the plant.

COMMERCIAL FERTILIZERS

The most widely used product today is *complete commercial fertilizer,* which includes nitrogen, phosphorus and potassium in balanced ratio mixtures such as 6-12-6. The formula of each standard brand mixture printed on the container, indicates that the first figure represents the percentage of available nitrogen contained in the mixture; the second figure represents the percentage of phosphoric acid, and the third figure is for potassium.

The regular and liberal use of a well balanced complete fertilizer usually serves all needs except in cases of ericaceous (acid tolerant) plants, when acid-forming fertilizers should be used. Modern methods of soil testing eliminate the danger of indiscriminate applications, and make it possible for the gardener to supply soil needs at specific times with single element materials.

All commercial fertilizers are concentrates and should be used in comparatively small amounts, according to directions. It is important that commercial fertilizers be applied when soil is moist, and watered in well afterwards, otherwise the chemicals will burn.

ORGANIC FERTILIZERS

There are a number of forms of *organic fertilizers* which are satisfactory for garden soil improvement, among them—manure, bonemeal, cottonseed meal, tankage and compost.

MANURE

Well rotted *manure* is used extensively as a soil conditioner as well as a fertilizer. The chief value lies in its organic content which adds bacteria, aids in changes of minerals to more available forms, and supplies more nutrition to the soil. Manure is most satisfactory when used as humus, with additions of other necessary nutrients, applied at the rate of three to five bushels per hundred square feet of garden soil and worked into the top six inches of soil. Sterilized manure reduces incidence of weeds.

LIQUID MANURE

Liquid manure is more beneficial than dry manure when quick results are required. It is made by steeping a bag of well-dried manure in a barrel of water for at least two weeks. One-half bushel of manure is sufficient for fifty gallons of water, but for a smaller amount, use one quart to four gallons. Before using, the mixture should be stirred well and diluted until it is the color of weak tea. Before applying, loosen the soil around plants and soak with water in order that the solution can more readily penetrate to the roots. Apply with sprinkling can and water afterwards. Best results are obtained from feeding small, weak doses often rather than one or two stronger doses at longer intervals. Although liquid manure may be used safely throughout the growing season on most garden flowers and leaf crops, it is particularly effective when plants are in bud or blooming, and when trees are fruiting and vegetables are in pod. Liquid manure serves as a stimulant when plants are not doing well and encourages greater growth when plants are wanted for exhibition purposes. Efficient, quick acting commercial liquid fertilizers are available. These are especially recommended for house plants, potted shrubs and for greenhouse use.

SUPERPHOSPHATE

Superphosphate is the most commonly used source of phosphorus. When used as a top dressing the action is much slower than when worked thoroughly into the soil.

BONEMEAL

Bonemeal, used extensively as an efficient plant food, is the safest and most fool-proof of all fertilizers. It is a very slow-acting fertilizer and tends to make the soil alkaline.

COTTONSEED MEAL

Cottonseed meal is a fine lawn fertilizer. It has a somewhat acid effect and is very rich in nitrogen, in addition to small amounts of phosphorus and potassium.

TANKAGE

Tankage is a comparatively quick acting organic fertilizer consisting of a mixture of miscellaneous slaughterhouse refuse.

COMPOST

Compost is an excellent source of organic matter, made by mixing garden loam and alternate layers of leaves, sod, grass clippings, undiseased garden refuse, straw, pine needles, etc. The layers are sprinkled with manure, superphosphate, or one of the trade-marked preparations made for the purpose of hastening decomposition. Compost is a very vital and important conservation measure.

The compost heap, generally rectangular in shape, should be located in a secluded portion of the home grounds. Various methods of keeping the compost in place are employed; mainly pits, wire containers, or rough boxes. The heap should be covered with soil, slightly concave on top in order to catch as much rain as possible. It should never be allowed to thoroughly dry out, and will need to be watered each week during dry weather. Every few months the heap should be turned over and re-piled in order to hasten decomposition by letting the air get in. If the heap is kept moist, and a preparation is used to aid decay, a compost heap may be rotted down in four or five months.

LEAFMOLD

Leafmold is an excellent soil conditioner and a valuable type of organic matter. Genuine leafmold from the woods is very scarce, but it can be made by composting leaves.

When making leafmold compost in large amounts the following directions may be used:

- 1 ton leaves
- 60 pounds ammonium sulphate
- 50 pounds calcium carbonate
- 30 pounds superphosphate
- 25 pounds potassium chloride

Spread leaves in pit, six inches thick, sprinkle with chemical mixture, then water thoroughly. Continue layers and same procedure to the top. This will make three tons of leafmold.

Drainage

We learn wisdom from failure much more than from success. We often discover what will do by finding out what will not do; and probably he who never made a mistake never made a discovery.
—Smiles

Drainage, or the removal of excess water, is of paramount importance in the low coastal country. When grading new property, levels should be established before building so that the surface water is carried away from the house. Properly graded areas of turf or of pavement are rarely absolutely level, and as a general rule need no artificial drains. Problem drainage is required for low places where surface water collects. In such cases, agricultural drain tile may be installed or the soil can be removed and a one-foot layer of cinders or gravel added as drainage. If these corrections do not solve the drainage problem, catch basins and drain inlets connected with a drain may be employed.

Driveways and walks are usually laid out with enough grade or rounded surface, so that excess water will drain away. Drainage in flower beds and borders is greatly improved by adding liberal amounts of humus, or by raising the beds three or four inches above the lawn. Beds in the shade require better drainage than those in the sun, because evaporation is more rapid in the sun and souring of the soil is prevented.

Well drained soil takes care of maximum amounts of water, creates a food and moisture reserve, and provides sufficient aeration. Large amounts of water in the soil are usually not harmful if they are moving, as air is drawn in with the water and the needs of plant roots are supplied. Excess drainage, however, has a tendency to lower the water table, and if too rapid, sufficient moisture will not be held in reserve and valuable mineral food elements will be lost.

Watering

It's but little good you'll do watering last year's crops.—Eliot

Watering is an important item of garden maintenance. Some moisture must be present in the soil at all times in order to keep plants in good growing condition. When the weather is excessively dry for long periods it is necessary to water thoroughly in order to enable the moisture to seep down into the soil and replenish the natural supply. A *heavy thorough watering* most nearly approaches an all-day rain and lasts for several weeks. This is best done in the early morning in areas where humidity is high and leaves dry slowly. When using the hose on planted areas, allow the water to run until the bed is saturated to a depth of four or five inches. If the end of the hose, without the nozzle, rests in a shallow box, fruit jar or tin can, any washing of the soil will be avoided, for the water will gently spread in all directions. When the soil is dry to the depth of an inch below the surface, repeat. Areas close to foundations may be watered very satisfactorily by "soaker" hoses which allow the water to seep out slowly along their entire length. *Light sprinkling* is not desirable as it encourages surface rooting, causes the soil to crust and seldom does any good as most of the moisture is quickly evaporated. However, after a thorough soaking, sprinkling is beneficial for freshening foliage (except roses) and washing off accumulations of dust. Most plants are able to withstand drought better than *excessive moisture*. When water stands on the roots because of bad drainage or excessive rainfall, air is excluded and the plants, unable to extract food from the soil, will die quickly.

Watering should be in accordance with the need of each plant, depending upon its type and the soil conditions. Plants which are in bud or have not yet bloomed require more watering than other plants during dry spells. Some plants require special methods of watering. (See Azaleas, Camellias and Roses). All freshly transplanted stock should be soaked to settle the soil, then watered as needed. (For methods of watering seedlings, see Propagation page 114.) Clay soils and soils well supplied with humus do not dry out as quickly as sandy soils. In summer, disregard noon withering, but drooping of the leaves in late afternoon indicates a need of water.

The best method of providing constant and uniform moisture for *trees* is by using drain tile. Four-inch tile, about 18 inches long, may be sunk into the ground about half way from the trunk to the outer branches on at least two sides of large trees. The openings should be level with the surface and may be covered with screen or small flowerpots to prevent things from falling in. If tiles are filled with water every two weeks during prolonged dry spells the gradual seepage of moisture will penetrate the entire root area. This method may also be used for shrubs which are dependent upon moisture. When using a hose, water thoroughly by a prolonged soaking until the surface water stands in little puddles. Some gardeners prefer to use a gadget called "Water Sword" which is especially beneficial for watering shrubs and trees. This appliance may be attached to the garden hose and plunged deeply into the soil. The best form of winter protection for broad-leaved evergreens is to be certain that they have a thorough soaking, especially after a dry fall, immediately before freezing weather begins. (See Winter Protection, page 122.)

An underground sprinkler system is most efficient for applying water evenly to *lawns* and relieves the tedium of hand watering. Grass shows lack of moisture by a dry rusty brown appearance but is quickly revived with a thorough soaking. Frequent light sprinklings encourage shallow roots. When hose attachments are used for watering, they should be left in one place until an area is completely soaked then moved to another position. When it is not possible to water all of the lawn at one time, divide into sections and water the various parts in rotation.

Lawns

Where a green grassy turf is all I crave!—Beattie

The growing and maintaining of a beautiful, well-kept lawn is an important part of horticultural endeavor. In making a new lawn it is necessary to see that suitable soil is provided if the natural soil conditions are not up to standard. Good sandy loam, with a moderate amount of humus content, is the best medium.

Assuming that the ground has been graded and cultivated thoroughly, the surface should be raked carefully to remove all stones, rubble, weeds, tree roots, etc., and provide a fine tilth before planting. A light dressing of a good fertilizer, applied previously to planting, is beneficial and should be worked into the soil to a depth of several inches.

ST. AUGUSTINE GRASS

St. Augustine grass is the most widely used grass for lawns in this area, and is unexcelled for planting under trees. This broad-leaved grass grows equally well in sun or shade; makes an excellent year-round green turf that is springy and soft underfoot; will choke out all other grasses, and will endure heat, cold and drought. Besides its value as a lawn grass, St. Augustine is widely used for holding steep banks that are subject to washing.

As St. Augustine does not make satisfactory seed, it is planted by sod or stolons. The best time to plant it is from March to October. When using sod, it should be cut into three-inch blocks and planted 12 to 15 inches apart, pressing the soil firmly around blocks but not covering the grass blades. Stolons, or runners, should be planted about 10 inches apart, covering the roots firmly with soil, leaving the grass blades above ground. It is estimated that one bushel of stolons is sufficient to plant 600 square feet. Lawns, covered with Bermuda, may be established to St. Augustine by digging out small chunks of sod and inserting stolons of St. Augustine. St. Augustine should be watered well after planting, and re-watered every other day until a good growth is established. After this, water only when the grass shows the need, then soak it well to a depth of 6 inches, or more, as sprinkling is usually more harmful than helpful. The lawn will be benefited each spring and fall by the application of a complete fertilizer—about 4 pounds per 100 square feet. At other times a light dressing of weed-free manure is good. Frequent fertilization will produce more verdant growth and discourage chinch bugs.

St. Augustine grass should not be cut the first season it is planted in order that the roots may become firmly set. When cutting is necessary, care should be taken not to shock the plant by removing too many blades of grass at one time. St. Augustine grass should be kept between 1½ to 2 inches tall: too dense a turf leads to a build-up of stems and leaves that harbors disease and keeps new roots from penetrating the soil; too close a cutting leads to dry soil and heat damage. Aeration of the soil—the removal of small plugs of earth to allow water and air to penetrate the soil—will produce a healthy turf and the restoration of packed areas. A hand aerifier is ideal for the above purpose, but good results may also be obtained by the use of a hollow-tined spading fork or a four-pronged spading fork.

Brown Patch and Chinch Bugs, two major problems affecting St. Augustine grass, appear somewhat similar but require different treatment. Brown Patch is a fungus infection, Pellicularia filamentosa, which develops in early autumn in enlarging rings—the center dead and the outer edges yellowing. Spray with a fungicide. The dead area may revive, and further infection may be avoided by proper fertilization without excessive nitrogen. Chinch Bugs, which appear in late spring, are black with white wings—only 1/6 inch when full grown. Their presence may be ascertained by placing a cylinder on the lawn and filling it with water so that the insects will be forced to climb the sides. They can be destroyed by a stomach poison spray used carefully according to directions. The badly damaged areas must be completely replanted. (See pages 24, 126 and 127.)

In colder areas, where St. Augustine cannot stand the winters, *Bermuda grass* is generally used. *Zoysia grass* is recommended for its dark green color and fine texture but requires more care and time for establishing a good lawn. *Rye grass*—a temporary winter grass—fills a particular garden need. It covers bare spots, is a green fertilizer, adding both humus and nitrates to the soil.

Trees

Who plants a tree loves others beside himself.—Old Chinese Proverb

Trees are the most permanent and indispensable of all plant forms and should be given first consideration in the planting of the garden or home grounds. The spacing of trees is most important as they determine, by their position, the shapes of the open areas in the garden design and break up the flatness of the landscape. Each tree should be chosen carefully for a variety of purposes—shade, foliage, flower, fruit, accent, or picturesque outline. When selecting trees, their eventual proportions should be taken into account in order that they may reach full development without crowding, and be in scale with their surroundings. Most southern trees lack the autumn coloration of foliage, due to the absence of cold weather, and only a few trees respond to the change from summer to fall; mainly, the Red Oak, Chinese Tallow and Sweetgum trees. In making a selection of trees, the deciduous types offer a larger and more varied assortment than the evergreen types. It is an excellent practice to observe the growth and habits of various trees before making a choice. Garden pilgrimages offer an opportunity for gardeners to observe trees and other plants growing in different situations with varied companion planting.

SHADE TREES

The presence of one or two fine shade trees is often the deciding factor in selecting a homesite. Trees which will add value and beauty to the completed home, are often carelessly damaged or killed during the construction process. It is of utmost importance to give them adequate protection during the entire construction period. In planning the home grounds where no shade trees exist, the distribution of shade trees is important. In the South, shade in the garden is almost as necessary as sunlight, and is particularly advantageous during the summer months, when trees cast their long, cool shadows on the lawn. Although most shade trees are of relatively slow growth, they are long-lived, and their beauty and dignity give lasting value to the garden. Some of the less desirable but quicker growing trees are short-lived, but may be utilized temporarily until replaced by more permanent types. If selecting for shade alone, the manner of growth and the kind of foliage should receive first consideration. Trees giving dense shade are best located on the lawn area, while the more open-growing trees which permit more sunlight to filter through, are a better selection for narrow or more crowded locations. Shade trees should always be planted far enough from the house to admit air. All of the trees listed have their merits of beauty and serve a very good purpose in furnishing shade wherever they are planted.

SHADE TREES*

Ailanthus (Tree of Heaven)—Ailanthus glandulosa, native (d)
Ash, Arizona—Fraxinus velutina (d)
  Green—Fraxinus lanceolata (d)
  White—Fraxinus americana, native (d)
Birch, River—Betula nigra, native (d)
Black Gum—Nyssa sylvatica (d)
Buckthorn, Carolina (Indian Cherry)—Rhamnus caroliniana, native (d)
Chinaberry (Texas Umbrella)—Melia azedarach umbraculiformis, (d)
Chinese Parasol Tree—Firmiana Simplex, (d)
Chinese Tallow—Sapium sebiferum (white berries) (d)
Cypress, Bald or Southern—Taxodium distichum, native (d)
Elm
  American—Ulmus americana, native (d)
  Siberian—Ulmus pumila (e)
  Cedar—Ulmus crassifolia, native (d)
  Chinese—Ulmus parvifolia (d)
  Winged—Ulmus alata
Eucalyptus
  Blue Gum—Eucalyptus globulus (e)
  Brown Gum—Eucalyptus robusta (e)
  Red, or Creek Gum—Eucalyptus rostrata (e)
  Gray, or Slaty Gum—Eucalyptus tereticornis (e)
Ginkgo (Maidenhair Tree)—Ginkgo biloba (d)

Hackberry (Sugarberry)—Celtis laevigata mississippiensis, native (d)
Hackberry—Celtis occidentalis (d)
Honey Locust—Gleditsia triacanthos, native (d)
Hornbeam, American—Carpinus caroliniana (d)
Linden, American (Basswood)—Tilia americana (d)
Maple
  Japanese—Acer palmatum (d)
  Red—Acer rubrum, native (d)
Mesquite—Prosopis glandulosa, native (d)
Mulberry
  Russian—Morus alba tatarica, native (d)
  Teas' Weeping—Morus alba pendula (d)
Oak
  Bur—Quercus macrocarpa (d)
  Live—Quercus virginiana, native (e)
  Red—Quercus rubra (d)
  Laurel—Quercus laurifolia (d)
  Overcup—Quercus lyrata, native (d)
  Pin—Quercus palustris (d)
  Post—Quercus stellata, native (d)
  Water—Quercus nigra, native (d)
  White—Quercus alba, native (d)
  Willow—Quercus phellos, native (d)
Osage Orange (Bois D'Arc)—Maclura pomifera, native (d)
Persimmon
  Common—Diospyros virginiana, native (d)
  Japanese—Diospyros kaki (d)
Pistache
  Pistacia chinensis (d)
  Pistacia texana, native (d)
Plum (Purpleleaf)—Prunus cerasifera (pissardi) (d)
Poplar
  (Silver-leaved Lombardy)—Populus bolleana pyramidalis (d)
  Simon—P. simoni (d)
  Lombardy—P. nigra italica (d)
Sassafras—Sassafras albidum, native (d)
Sweetgum—Liquidambar formosana (d)
  Liquidambar styraciflua, native (d)
Sycamore (American Plane Tree)—Plantanus occidentalis, native (d)
Willow
  Black—Salix nigra, native (d)
  Weeping—Salix babylonica (d)
  * (d) Deciduous (e) Evergreen

TRANSPLANTING TREES

Transplanting large, mature trees by modern methods may be done at any season of the year and is a job to be undertaken only by experienced men with adequate equipment. While there is a great advantage in placing mature trees where they are most needed, if economy of investment is considered, smaller and younger trees may be used. As a general rule, any tree with a trunk larger than six inches in diameter should be transplanted with *ball and burlap*. (B&B). Small trees, which are dug, balled and burlapped, and cured in prope form, are comparatively easy for the gardene to move, and their growth continues withou interruption after replanting. After the tre is in place, the burlap may be loosened an tucked in the bottom of the hole, unless i seems too bulky, then it may be cut awa without disturbing the ball of earth.

When transplanting *bare-root* trees, grea care must be taken not to injure or bruise th roots, and it is well to dip the roots in a thi watery mud to protect them and prevent drying out during the process of moving. Th hole should be sufficiently large to spread th roots out in their natural position and dee enough for the old soil line on the trunk t lie about an inch under the new soil. Th earth should be firmed well between and abou the roots so that no air pockets are left, an watered thoroughly.

CARE OF TREES

Adequate fertilization and care keep trees i a healthy condition and do much to eliminat repair problems and resist insect disease attacks. Trees may be fed in February or March Fertilizer is most efficiently applied by mean of a series of holes, made by a crowbar, abou two inches in diameter and 18 inches deep dug about three feet apart just inside the dri line of the branches. Two or more rows o holes are necessary for large trees. Allow on pound of tree or plant food to each inch of th tree's circumference. The holes should be hal filled with fertilizer, then filled up with eart and watered thoroughly.

Spanish Moss should not be allowed to increase beyond control. It may be pulled off b hand or removed with a rake. Dead woo should be cut from trees as soon as it is noticed Whenever a limb is removed, or the trunk o a tree becomes damaged, the wound should b painted with a special tree paint. If the gardener is not familiar with the practice of corrective pruning, spraying and staking, it i advisable to consult a local nurseryman o tree surgeon who will recommend the prope methods to follow.

FLOWERING TREES

There are a number of beautiful trees which when well placed, add interest and variety t the garden and the entire neighborhood. Varieties may be selected to provide a succession of bloom from early spring, through the summer, and into the early fall. Some of the smaller varieties are especially valuable as accents, or specimen trees, used near the corner of the house, against a bare wall, at the edge of the property, to overhang a pool, or at any place where height and interest are desired.

The *espalier* method of training trees is adaptable to a wide range of small ornamental trees and shrubs. The technique of training trees and shrubs differs widely from that used for fruit trees. More pleasing effects are obtained if the tree or shrub is allowed to follow a natural characteristic growth. Branches may be held in place by wall nails or long staples. Yaupon, pyracantha, hawthorns, flowering plums, loquat, and shrub roses are especially effective when displayed against a wall. However, professional skill is advised as the planting and pruning must be done with extreme care, as all twigs and branches must be cut off except those growing in a single plane. Only one stem and a few lateral branches are left on a tree, and on a shrub, two, or at most, three stems.

The native species of flowering trees should be grown more generally as they are vigorous and require little care. Many of the less hardy varieties require special care, but their beauty is well worth the extra work involved.

FLOWERING OR BERRIED TREES

- Anaqua—Ehretia, white (e)
- Apple, Fruiting—Malus sylvestris, pink (d)
- Bauhinia (Orchid Tree)—Bauhinia, pink, white, purple, red (d)
- Blackhaw—Viburnum rufidulum, white, native (d)
- Buckeye, Mexican—Ungnadia speciosa, pink, native (d)
- Candletree—Cassia alata, yellow (d)
- Catalpa—Catalpa speciosa, white, native (d)
- Chaste Tree—Vitex agnus castus, blue (d)
- Cherry Laurel—Prunus caroliniana, white (e)
- Crabapple, Southern—Malus, pink, fragrant
- Crabapple, Texas—Pyrus texana, pink, native (d)
- Coraltree—Erythrina crista-galli, red (d)
- Dogwood—Cornus florida, white, native (d)
- Fringetree—Chionanthus virginica, white, native (d)
- Golden Raintree—Koelreuteria paniculata, yellow
- Hawthorn (Red Haw)—Crataegus, white, native (d)
- Holly, American—Ilex opaca, red berries, native (e)
  - Chinese—Ilex cornuta (e)
  - Possumhaw—Ilex decidua, native (d)
  - Yaupon—Ilex vomitoria, red berries (e)
- Huisache—Acacia farnesiana, yellow, fragrant, native (d)
- Indian Hawthorn—Raphiolepis indica, pinkish-white (e)
- Jacaranda—Jacaranda ovalifolia, blue (d)
- Jujube—Zizyphus, greenish-yellow (d)
- Laurel (Texas Mountain)—Sophora secundiflora, blue (e)
- Loblolly Bay—Gordonia lasianthus, white
- Locust, Black—Robinia pseudoacacia, white, native (d)
- Magnolia
  - Magnolia grandiflora, white, native (e)
  - Magnolia soulangeana, pink (d)
- Sweet Bay—Magnolia virginica, white, native (e)
- Mimosa—Albizzia julibrissin, pink (d)
- Peach, Flowering—Amygdalus persica, pink, red, white (d)
- Plum, Wild—Prunus mexicana, white, fragrant, native (e)
- Ratama—Parkinsonia aculeata, yellow, native (d)
- Redbud—Cercis canadensis, rose-purple, native (d)
  - Cercis canadensis, alba, white, native, (d)
- Texas Ebony—Pithecellobium flexicaule, green-white, fragrant, native
- Tulip Tree (Poplar)—Liriodendron tulipifera, greenish-yellow (d)
- Tung Oil Tree—Aleurites fordii, white (e)
- Wild Olive—Cordia boissieri, white (e)
- Willow (Desert Flowering)—Chilopsis linearis, lavender-white, native (d)

NATIVE TREES

The South is rich in native plant materials and there is a growing appreciation of their charm and suitability in landscape design. Native trees should be more widely used for shade and decorative purposes, as they are especially suited to climatic conditions, having become accustomed to them through years of adaptation. Soil, moisture, and drainage conditions are to their liking, and native trees may be selected to fit into all, or nearly all, situations.

Nursery-grown native trees are preferable for transplanting to those dug in the woods, and stand a much better chance of survival. Native trees, grown in the nursery fields, have been regularly fed and watered while being grown, and have been root-pruned to develop a compact root system which enables them to transplant easily. Trees which are taken from the woods have long taproots and are rarely transplanted with safety, and usually die after the first season. By observing conservation laws

and using only nursery-grown stock in our gardens, our valuable native dogwood, redbud, haw, holly, yaupon and magnolia will be preserved and perpetuated.

Fruit Trees and Fruits

Hark, where my blossomed pear-tree in the hedge
Leans to the field and scatters on the clover
Blossoms and dewdrops—Browning

Increasing numbers of *citrus* and *fig* trees are grown successfully in this area. *Pears, peaches* and *plums* also do well, and should be included in the home grounds whenever possible. Most fruit trees are dwarf or semi-dwarf and may be used with good pictorial effect as ornamentals. They are particularly effective when used to border driveways, as they remain uniformly small. The landscape value of fruit trees should not be overlooked.

The selection of the particular kinds of fruit adapted to the soil and climatic conditions is of the utmost importance. In this area varieties that thrive during long summers and mild winters are recommended. Fruit trees require exposure to some cold weather as a stimulus to break dormancy and to start spring growth. They require pollination to produce fruit and unless adequate pollination takes place, trees may blossom abundantly but not bear. Some species bear fruit as a result of pollination from their own blossoms—these trees are called "self-fruitful." However, many fruits require the pollen from another variety to set the fruit—such varieties are called "self-unfruitful." Fruit trees require more care than ornamentals as they need frequent spraying and pruning to keep them in good condition. State Agricultural Colleges and Experiment Stations issue charts and bulletins for fruit growing, which recommend approved sprays for fungus and insect pests, pruning information, and soil preferences.

There is an increased interest in growing espaliered fruit trees, trained against walls, partly for economy of space and partly for landscape effect. Espaliered fruit trees are particularly effective when grown against boundary walls and fences, against the garage, or between windows on the house wall. Skillful pruning is necessary to develop and maintain the precise horizontal and vertical branches and stems. Some nurseries list peach, plum and pear trees already trained to formal shape, which the gardener need only plant against a wall.

Mulberries, persimmons and *jujubes* are grown in many localities, more for shade and ornament than for the fruit they bear. To a limited extent tropical fruits, such as bananas, avocados and papayas, are grown in protected areas but seldom bear fruit except after extremely mild winters. *Pecans* are grown universally throughout the Coastal Country. *Grapes* may be grown on fences or may be trained on an arbor or pergola, thus serving the double purpose of ornament and use. *Blackberries* and *dewberries* are a welcome addition to the vegetable garden but the bushes have little ornamental value. *Strawberries* may be used in beds by themselves or as decorative borders for flowers and vegetables. Plants of recommended varieties of small fruits may be secured from growers who specialize in berried fruits.

FRUITS FOR THE GARDEN

Fruit	*Variety*	*Ripens*	*Description*
Peach	Maygold	May	Yellow clingstone, hardy.
	Keystone	June	Yellow freestone, good quality.
	Luttichau	June	White freestone, very sweet, medium size, prolific.
	Pallas	July	White semi-cling, fairly sweet, medium to large, prolific.
	Redskin	July	Yellow freestone.
	Frank	August	Yellow clingstone, good quality, dependable.
Plum	Bruce	May	Large, red color, acid, "self-unfruitful."
	Methley	May	Medium, purple color, very sweet. Best pollinator for Bruce.
	Excelsior	June	Medium size, tart, red color.
Pear	Pineapple	July, August	Medium. Beautiful flowers and foliage.
	Douglas	August	Medium size, fair quality. Small tree, blight resistant.
	Garber	August	Semi-oval shape, medium size, prolific.
	Keiffer	August	Bears at young age, fair quality, very productive.
	Orient	August	Good quality. Spreading type tree, good for yard planting.
Orange	Louisiana Sweet	October	Medium size, sweet, has seed, prolific.
	Parson Brown	October	Small, acid. On trifoliate root stock.
Satsuma	Owari	October	Medium to large size, prolific, tree cold resistant.
	Silverhill	October	Small.
Lemon	Meyer	September	Fruit smooth skin, good quality, hardy.
Fig	Celeste	June	Small blue fruit, sweet.
	Green Ischia	June	Green fruit, fair quality.
	Magnolia	July	Large green fruit. Good for canning. Long bearing season.
	Texas Everbearing	July	Medium to large size, brown color, good quality.
Loquat	(Eriobotrya japonica)	March	Yellow, firm flesh, prolific.
Persimmon	Eureka	October	Roundish, oblong fruit, excellent quality.
	Tane Nashi	October	Large cone-shaped fruit, "self-fruitful," seedless, ornamental tree.
Pomegranate	(Punica Granatum)	September	Showy, orange-red fruit.
Pecan	Moore	August	Medium to small, very prolific, shells well.
	Success	October	Large semi-oval, well filled, hardy.
	Stuart	October	One of the best dual purpose trees, shade and nut.
Blackberry	Brazos	May	Very large fruit, prolific.
	Early Wonder	May	Medium size, sweet, prolific.
Dewberry	Boysen	May	Large wine-red fruit, good quality.
	Young	May	Large size, good quality.
Strawberry	Dixieland	April	Large, prolific.
	Missionary	April	Medium to large, sweet, hardy.
	Pocahontus	April	Large, prolific.
Grape	Freedonia	July	Black fruited, sweet.
	Scuppernong	July	Vigorous vine, small bunches, sweet. Good for jelly and juice.
	Carman	August	Dark blue skin, large, fair quality, vigorous plants.
	Thomas	July	Good quality, does well.

Coniferous Evergreens

No tree in all the grove but has its charms—Cowper

Conifers are evergreen trees and shrubs with narrow needle-like foliage, which bear cones or berries. They are largely used in landscape planting to provide year-round foliage mass, ranging from picturesque low-spreading types to distinctive cone-shaped varieties which provide vertical accent material.

All conifers should be moved with balled roots and may be transplanted throughout the year, although August and the early spring are considered the most favorable times. Conifers, as a general rule, are slow growing and require less pruning than other trees and shrubs. The lower limbs should always be allowed to remain, for in removing them the natural beauty is destroyed. Conifers are usually resistant to blight; but when infested with red spiders and basket worms, they should be treated promptly. (See Diseases and Pests, page 126.)

Pines may be grown successfully in the home grounds if secured from nurseries, but are difficult to transplant from the woods because of their long taproots and heavy root systems, which are easily damaged in digging and from prolonged exposure. Pines prefer a well-drained, deep loamy soil, and it is important to maintain their natural needle mulch. which keeps the ground moist, cool and slightly acid. Mature pines are susceptible to any shock or damage, such as cutting away or destroying part of their roots, which may cause the trees to die. A fill of earth from building excavations, carelessly thrown over the feeding roots, will frequently result in the death of a tree.

Coniferous trees and shrubs which are adapted to this area are:

- Cedar—Cedrus deodara
  - Japanese—Cryptomeria japonica
- China Fir—Cunningham
- Cypress, Arizona—Cupressus arizonica
  - Hinoki—Retinospora (Chamaecyparis) obtusa
  - Italian—C. sempervirens
  - Mourning—C. funebris
  - Portuguese—C. lusitanica
- Juniper, Blue or Silver Cedar—Juniperus virginiana glauca
  - Chinese—J. chinensis
  - Common—communis
  - Creeping—J. horizontalis
  - Dwarf Blue—J. chinensis viridifolia
  - Greek—J. excelsa
  - Pfitzer—J. chinensis pfitzeriana
  - Redcedar—J. virginiana (native)
  - Savin—J. sabina
  - Sylvester—J. chinensis femina
- Pine, Japanese Black—Pinus thunbergi
  - Loblolly—P. taeda (native yellow)
  - Longleaf—P. palustris
  - Shortleaf—P. echinata (native)
  - Slash—P. caribaea
- Retinospora, Moss—Retinospora veitchi
  - Goldenplume—R. plumosa aurea
- Yew, Japanese—Taxus cuspidata

Hedges

What can you find more lovely than a hedge?
A living, quivering screen
Of vibrant, shimmering green,
Standing deep-rooted on the edge
Of what is mine, and what my neighbor owns.
—Ross

Hedges serve many purposes. They provide seclusion and privacy to the home grounds and gardens; are useful in outlining boundary lines and enclosing service and play areas. Evergreen hedges provide a pleasing background for blooming plants and define the design of formal gardens.

PLANTING

In planting, it is necessary to dig a trench, irrespective of the kind of hedge desired. The best plan is to dig out the topsoil, then break up the subsoil to a spade's depth, working in some type of humus. The topsoil should be improved before planting by incorporating a complete commercial fertilizer, in addition to humus. Plants for low hedges are usually placed closer together than those for taller ones, and all hedge plants should be set slightly lower than they were in the nursery, in order to obtain a dense growth at the bottom. Hedges should never be planted directly against a walk, drive, or property line, as it is necessary to allow space for the shrubs to increase their growth in width.

TRIMMING

A hedge should not be allowed to attain its desired height too quickly, but should be kept low and compact until the plants are firmly established. Trim hedges so that they slope in a little at the top, in order to expose the lower part to the sun. Formal hedges need almost continual clipping for two-thirds of the year, while informal hedges need little pruning to retain the lines of natural growth and keep the shrubs in bounds. Flowering hedges, except when they are grown for foliage only, are trimmed immediately after blooming unless the flowers are followed by ornamental fruits. Old, scraggly hedges need to be pruned back severely in the spring. Quicker growing hedges require clipping much more frequently than slower growing ones—hence require more upkeep.

FEEDING

About March 15th, just before the heavy growing season, work a small amount of bonemeal into the soil thoroughly and water well. Average one tablespoonful to each small plant, varying up to a double handful to the larger plants. About the first week in June an application of ammonium sulphate should be applied, using the same proportions in this as of the bonemeal. It is necessary that this fertilizer be well mixed with the soil and watered thoroughly. Early in September an additional application of bonemeal, with an equal amount of potash, should be given, following the directions of the spring feeding. A half-inch mulch of grass clippings applied to the top surface in April will be beneficial in giving protection to the roots during the summer.

SELECTION

A large garden needs a taller boundary hedge than a small garden, and the type selected should be in keeping with the type of house and the general style of architecture, and should harmonize with other plantings. If in doubt when selecting a suitable hedge of deciduous or evergreen material, of shiny or dull foliage, of coarse or fine texture, it is best to consult a reputable nurseryman or landscape architect in order to avoid unnecessary and costly mistakes. *Yaupon* is a satisfactory evergreen hedge in this area, as it is insect-free, compact in growth, and requires less shearing than most hedge material. It prefers a sunny location. *Waxleaf ligustrum* and *elaeagnus* are two other highly recommended hedge plants. Among the best tall hedge materials are *bamboo* and *cherry laurel*. For low hedges, particularly in small formal gardens, *dwarf yaupon* and *Japanese box* are excellent. The plants listed below make good hedges:

- Abelia, flowering—(e)*
- Althea, flowering—(d)*
- Bamboo, (e)
- Cape Jasmine, flowering—(e)
- Cherry Laurel (Wild Peach)—(e)
- Elaeagnus, (e)
- Euonymus japonica, flowering—(e)
- Euonymus patens, flowering—(e)
- Holly, berried—(e)
  - Ilex cornuta (Chinese Holly)
  - Ilex cornuta burfordi
  - Ilex cassine (Dahoon)
  - Ilex vomitoria (Yaupon)
- Japanese Quince, flowering—(d)
- Ligustrum
  - Japanese (e) Grows tall and rank.
  - Waxleaf (e) Plain and variegated.
- Oleander, flowering (d)
- Pineapple Guava, fruited (e)
- Pittosporum, flowering (e)
- Podocarpus (e)
- Polyantha Roses, flowering (e)
- Pomegranate, flowering, fruited (e)
- Pyracantha (Firethorn) berried (e)
- Sasanqua Camellia, flowering (e)
- Tamarix, flowering (e)
- True Myrtle (m. communis) flowering, fruited (e)

Some plants for very low hedges are:

- Japanese Box (e)
- Dwarf Yaupon (e)
- Variegated Dwarf Holly (e)
- Sport of Confederate Jasmine (e)
- Gardenia radicans (e)
- Viburnum (e)
  - V. tinus
  - V. suspensum
  - V. odoratissimum
  - V. japonicum

*(e) evergreen *(d) deciduous

Shrubs

After a little while, the birds will serenade in bush and tree.—James Ryder Randall

Shrubs serve many purposes, both utilitarian and aesthetic, and should be planted in such a manner as to emphasize the salient parts of the home grounds. They are used as hedges to form the background and foil for the blooms of bulbs, annuals and perennials; to bound the entire garden or to separate various portions of it; as foundation plantings; alone as specimens, or as massed informal groupings.

Proper foundation planting is most important, and professional advice is advisable before making a selection. The gardener should observe good foundation plantings in residential sections and on garden pilgrimages, in order to make a wise choice and avoid over-crowding and other common errors. Evergreens are the best plants for this purpose.

Whole gardens, either formal or informal, can be made entirely from shrubs. Such gardens are becoming increasingly popular as a helpful solution to the yardman shortage. Good shrubs are a long term investment which pays increasing dividends of size and beauty for years. When once established in good soil, shrubs require the minimum of care—occasional fertilizing, enough water, and a little annual pruning.

The choice of flowering and berried shrubs is extensive and represents a wide variety in habit of growth, bloom and foliage. If the gardener is not familiar with these shrubs, it would be advisable to visit a field nursery to gain knowledge of the appearance, ultimate size and density, shape, and characteristics of mature plants. Selection should be made on the basis of the shrub's year-round appearance for foliage, as well as floral and berried display. Through careful selection, the gardener may have an assortment of shrubs that will supply fragrance and masses of color, flowers and foliage for indoor arrangements, and brilliant autumn berries.

When extra height is needed in the shrub border, for accent or to block out an unpleasant neighboring view, a "tree" type evergreen should be grown in with the other plants. This shrub may be trained to raise a tree-shaped head on a single stem, above the general foliage mass. This method is especially satisfactory as it does not add to the dense foliage bulk lower in the border.

In addition to the many shrubs, tried and found satisfactory over the years, an increasing number of newly introduced hybrids or species is being used. (See Shrub chart, page 136; also, Azaleas, page 65; Camellias, page 73; The Tropical Garden, page 104.) Due to the enthusiasm for plant conservation, gardeners are using more native shrubs, which they have found to be beautiful and dependable when grown in the garden. In planting, it should always be kept in mind that shrubs of opposite soil preferences should not be grouped together. Similarly, the preferences for sun and shade must be considered.

Shrubs are frequently trained against walls in espalier fashion. (See Espalier, page 53.) Large shrubs or small trees are often used to form pleached allees, when planted in rows, and trained and interlaced to form an arbor.

USE NATIVE PLANT MATERIAL TO ATTRACT NATIVE BIRDS

Plants of native species may be used to great advantage in the garden to attract bird-life. Fortunately, it is seldom necessary for gardeners to provide artificial food for birds, and it is far more satisfactory to provide plantings which will supply nesting sites and shelter in addition to natural food. The Audubon Society recommends the use of a variety of plantings, of combinations of trees, shrubs and vines, to attract bird life. The following list of plants are native to this section and should be used more generally in gardens as they all attract native birds. Numbers (corresponding to the numbers in the list at the bottom of this page) indicate the particular species of birds for which these plants have the greatest attraction.

Beautyberry (Callicarpa) 2,8
Blackhaw (Viburnum prunifolium) 1,3,4,5,7,8,9,19,40
Dewberry (Rubus) 1,2,3,4,7,8,10,11,21,23,25,27,28,31,33,34,35,40
Dogwood (Cornus) 1,3,4,5,7,8,9,10,11,22,23,25,31,32,34,35,38
Elderberry (Sambucus) 1,2,3,4,7,8,11,12,21,23,25,31,39,40,33
Grape (Vitus) 1,2,3,4,5,7,8,10,11,20,23,37
Greenbrier (Smilax) 2,3,7,8,9,10
Hackberry (Celtis) 1,2,3,4,5,8,10,18
Hawthorn (Crataegus) 3
Honeysuckle (Lonicera) 3,7,8,9,11,34
Mulberry (Morus) 2,3,5,7,10,19,20,21,22,23,25,26,27,28,29
Partridgeberry (Mitchella) 11,17
Peppervine (Ampelopsis) 1,2,3,4,8,9,18,20,21,25,29,31,32,33
Pokeberry (Phytolacca) 1,2,3,4,7,9,10,23,30,31,32,
Possumhaw (Ilex decidua) 1,2,3,4,5,7,8,9,11
Red Cedar (Juniperus) 1,2,3,4,5,6
Sassafras (Sassafras) 3,7,11,23,25
Sourgum (Nyssa) 1,3,5,31,32
Sumac (Rhus copallina) 2,3,8,9,11,12,14,20,36
Supplejack (Berchemia) 2,3
Virginia Creeper (Ampelopsis) 1,2,3,4,8,9,18,20,21,25,29,31,32,33
Waxmyrtle (Myrica) 1,4,6,7,8,9,11,12,13,14,15,16,17
Wild Plum (Prunus) 2,7,8,10,27,28
Yaupon (Ilex vomitoria) 1,2,3,4,5,7,8,9,11
*

1. Flicker
2. Mockingbird
3. Robin
4. Bluebird
5. Cedar Waxwing
6. Myrtle Warbler
7. Catbird
8. Brown Thrasher
9. Hermit Thrush
10. Cardinal
11. Bobwhite
12. Phoebe
13. Tree Swallow
14. Chickadee
15. Carolina Wren
16. White-eyed Vireo
17. Meadowlark
18. Sapsucker
19. Yellow-billed Cuckoo
20. Red-bellied Woodpecker
21. Red-headed Woodpecker
22. Downy Woodpecker
23. Kingbird
24. Wood Thrush

*(No plant mentioned in this list is poisonous to human beings, or is known to carry diseases that affect crops or orchards in the Gulf Coast Region.)

25. Red-eyed Vireo
26. Yellow Warbler
27. Orchard Oriole
28. Baltimore Oriole
29. Scarlet Tanager
30. Mourning Dove
31. Olive-backed Thrush
32. Gray-cheeked Thrush
33. Titmouse
34. White-throated Sparrow
35. Song Sparrow
36. Goldfinch
37. Pileated Woodpecker
38. Warbling Vireo
39. Arkansas Kingbird
40. Rose-breasted Grosbeak

Gray-Leaved Plants

The soothing nun-like quietude of gray-green leaves—Dudley

Gray-leaved plants should be used more generally for many advantageous reasons. Almost without exception, these plants stand long periods of drought and intense heat exceptionally well, and are rarely troubled with insect pests. They present a cooling and soothing effect during the summer heat and appear almost silvery white in the moonlight. When gray-leaved plants are used skillfully, they provide contrast and background for garden color. They may be used equally well to accentuate strong colors such as orange, red and magenta, or to blend pastel shades. The soft colors of pinks, blues, yellows and mauves are at their best when used against gray or silvery leaves. The gray effect is usually caused by hairs on the surface of stems and leaves, which protect the plant surfaces and keep them cool and moist in the same manner that a mulch protects the soil. The following list of gray-leaved plants is suggested for use in gardens of this area:

TREES

Arizona cypress—Cupressus arizonica—Pyramidal specimen tree.

Veitch's Silver Cypress—chamaecyparis pisifera squarrosa — soft textured conifer — may be sheared.

SHRUBS

Elaeagnus pungens—Silver-lined leaves, small white, fragrant flowers in fall.

Lavender Cotton—Santolina incarna—gray foliage, ideal for bordering—will stand shearing.

Pineapple Guava—Feijoa sellowiana—red tassel-like blossoms.

Salt Cedar — Tamarix — feathery foliage — pink flowers.

Senesa or Desert Sage—Leucophyllum texanum—Lavender flowers following rain.

PLANTS

Butterflyweed or Pleurisy Root—Asclepia tuberosa—native plant—bears orange flowers.

Catnip—Nepeta—useful as a border plant.

Lead Plant—Amorpha canescans—short stemmed native plant—small pink flowers.

Mealy Sage—Salvia farinacea—blue flowers.

Penstemon grandiflorus — tall-growing annual plant—silver-green succulent foliage—blue or purple flowers.

Silverleaf Nightshade—Solanum elaeagnifolium—native—silver-gray foliage, purple flowers—good border plant—does well in summer.

Silvery Wormwood—Artemisia filifolia—native—soft green margined with white.

White Leaf Mint—Pycnanthemum albescens—native perennial.

Dusty Miller—Centaurea gymnocarpa.

Spanish Dagger—Yucca—Needs hot sun, little water.

Succulents and Cacti—Ideal for rock gardens.

Vines

The vines are in blossom,
They give forth their fragrance.
—Song of Songs

Vines have a number of important functional and decorative uses in garden design. When well placed and grown, their foliage and colorful flowers are a decided asset and add charm

and beauty to the garden, Vines serve the utilitarian purposes of providing shade, framing windows and doorways, covering walls and unsightly buildings. Care should be exercised in selecting vines with reference to their ultimate size, texture, density of foliage, and means by which they climb.

Vines which cling by aerial rootlets are most suitable for wall coverage. Such vines as *ivy* and *fig* are well adapted to covering large areas of brick, stone and stucco. Care should be taken to train and trim vines properly, in order that they enhance rather than obscure well designed architectural features.

Vines which climb by means of tendrils and the twining of their stems are best adapted for fences, pergolas and trellises. *Sweet peas* are usually trained on fences, wire or strings, but may be grown effectively on tripods in the English fashion. Tripods are made by setting plant stakes in the ground in a circle of three to four feet in diameter, and bringing the tops together.

Vines are used to good advantage in filling in before permanent planting gets a start, or when the space available for planting against a house is too narrow for shrubs. Special nails may be used to fasten vines to mortared walls, while hinged or detachable trellises are best for painted wood surfaces. Vines may also be grown espalier fashion, on wire supports, forming interesting and decorative patterns of tracery on walls.

Vines need little pruning except for the removal of dead wood or scraggly growth and to insure floriferousness. The appearance of old vines which are bare at the bottom, may be improved by bending branches down to the base, fastening them in place, and allowing them to grow upward again. Vines are often trained to climb on pillars, stumps of dead trees and on living trees. When used on trees, it is usually necessary to tie the vines loosely against the tree trunk several times until the vines reach the branches, then the strings may be removed. Vines are not detrimental to adult trees if confined to trunk and main branches; and their gracefulness of growth is most effective.

Once established in fertile soil, perennial vines will thrive for years with little attention beyond occasional cultivation, an annual top-dressing of manure, and watering in time of drought. Annual vines should be fertilized, watered and cultivated frequently in order to encourage luxuriant growth in as short a time as possible.

(For detailed cultural information see chart Vines Easily Grown, page 150.)

Ground Covers

But ere you plant, . . .
Observe how Nature's choicest works are traced.
—Abbe de Lille

Creeping plants make excellent ground covers for areas where grass will not grow because of dense shade or tree roots. When planting under trees, a spread of new soil should be provided over the existing root-filled earth. Low growing plants are often used for interplanting in bulb beds to hide the withered ripening leaves and to keep the blooms unspotted from the splattered mud of sudden spring storms. Ground covers also discourage the growth of weeds and provide a growing mulch which protects the surface soil from too rapid evaporation and the direct rays of the sun.

Ground covers are often used on steep slopes to bind and hold the soil and prevent erosion. When grown about or under foundation planting, ground covers make the shrubs appear thicker, give a finished appearance by covering the bare earth, and add to the humus content of the soil by holding fallen leaves in place. The plants are useful to fill in odd corners and narrow strips where grass cutting is difficult or impossible.

Small creeping plants are sometimes used for pavement planting between flagstones or bricks of paved areas. If the plants are used sparingly, the effect is charming, but when overplanted the effect is apt to be untidy. Any portion of pavement planned to accommodate small plants should be laid on a sand base.

Recommened ground covers for this area are:

Ajuga reptans
One of the best covers for dense shade. Blue and white flowers—low rosettes of leaves. Also bronze, variegated and giant types.

Confederate Jasmine
Vine used as ground cover will bloom. Dwarf sport can be clipped and used for low edging but does not bloom.

Euonymus fortunei
Beautiful trailing evergreen, desirable for carpeting. Partial shade.

Forget-me-not—Myosotis
Particularly desirable for interplanting in lily beds. Blue flowers. Sun or partial shade.

Gill-over-the-ground—Nepeta hederacea
Often called "ground-ivy." Desirable for carpeting. Sun or partial shade.

Honeysuckle—Lonicera japonica
Excellent cover for steep slopes where soil is not too good. Full sun or half shade. Very fragrant.

Ivy—Hedera
In a host of forms. Excellent trailer for foliage effect. Shade or semishade. Good under trees. Slow grower.

Japanese Spurge—Pachysandra
Low-growing plant. Glossy leaves, creamy white flowers. Sun or shade. Will tolerate acid soil.

Lantana, Trailing
Lavender flowered. Full sun. Excellent soil binder.

Liriope
Purple flowers, grass-like foliage. Any soil. Sun or shade. Makes dense carpet or edging.

Maidenhair Fern
Semi-shade. Will grow in acid soil. Excellent for under-planting azaleas and camellias.

Monkey Grass—Ophiopogon
Narrow-leaved evergreen. Sun or shade. Easy culture. (See illustration, page 63.)

Oxalis
Pink, white and yellow flowered varieties. Sun or shade. Naturalizes. Grown from bulbs.

Partridge-Berry—Mitchella
Native, dainty trailing plant with glossy leaves. Red berries in winter.

Periwinkle—Vinca Minor
Blue and white flowers. Forms dense carpet. Best in part shade.

Phlox, Creeping
Pink flowers. Moss-like evergreen foliage. Sun. Good drainage. Pavement planting.

Plumbago, Creeping—Ceratostigma plumbaginoides
Evergreen. Deep blue flowers. Sun or semi-shade.

Roses, trailing types
Useful for embankments. Sun or partial shade. Max Graf and Wichuraiana best varieties.

Sedum
Many varieties having varied flower display. Dense evergreen mat. Any soil. Sun to partial shade. Pavement planting.

Strawberry Begonia
Trailing perennial, round variegated leaf. Delicate white flowers on slender stem. Shade.

Violets
Will grow in partial shade. Good soil.

Wandering Jew—Tradescantia
Used under shrubs, rank-growing. Sun or part shade.

Azaleas

The fair Azalea bows
Beneath its snowy crest.—Whitman

From the standpoint of adaptability, wide range of color, profusion of bloom and length of flowering season, no shrubs that grow in the lower south can equal *azaleas*. The shrubs are used advantageously as specimens, as borders, and for foundation and mass planting. Evergreen azaleas, even though not in bloom, have great value as green backgrounds or accents for the garden both in summer and winter.

From a blooming standpoint, they are at their best when planted in masses. The gardener has the choice of rich and varied coloring from white through pale shades to the deeper colors, with many beautiful shaded and variegated sorts. When in full bloom, azaleas present a solid mass of gorgeous color, as the flowers are so lavishly produced that they hide the foliage. Groups or masses of azaleas are effective when of a single variety; but beautiful and interesting effects also can be attained by planned shading of colors, or by using accent plants here and there with flowers of contrasting size, form or color. If

a particular color effect is desired, plants should be selected and planted when in full bloom.

Plantings may be confined to azaleas which bloom at the same time; or, by careful selection, one may have a prolonged season of bloom from September to May, with the greatest flowering in February and March. For maximum bloom effect, it is best to group the plants together which bloom about the same time. The very late blooming Indica varieties tend to start putting out new growth before they bloom in Houston, so the blooms are obscured to some extent. The only serious disadvantage to an extended blooming season is the fungus disease, azalea petal blight, which makes it necessary to spray all the blooms two or three times a week during the blooming season to prevent the petal blight and assure beautiful azalea blooms.

The basis of any new planting should consist of varieties which have been tested and found adaptable to this climate. Plants should be secured only from *reliable sources* and should be in a strong and healthy condition at the time of planting. Azaleas are permanent investments, increasing in beauty and value from year to year and, properly planted, are likely to outlive the present generation.

SPECIES

The species of azaleas in cultivation belong to a number of different groups, not all of which are adaptable to any one section. In the Houston area, the *Indica, Kurume, Pericat* and *Macrantha* are grown with success. Other evergreen groups such as the *Belgian Hybrids, Glenn Dale Hybrids* and the *Rutherford Hybrids* would probably do well in Houston if properly tested.

INDICA AZALEAS

The *Indica* or Southern Indian Azaleas are the most widely known, largely because of the fine specimens of great age to be seen in the famous old southern azalea gardens. Indicas grow rapidly, forming large wide-spreading bushes. The flowers are single and, like the leaves, are larger than those of the other species. As to habit, there are two classes: tall plants that usually bloom early to mid-season and low or dwarf plant that usually bloom late.

There are a very *large number of varieties,* but the following early, midseason, and late varities do well and are available in Houston:

*Will bloom well in moderate to dense shade.
**Will bloom well only in moderate to full sun.

WHITE

*Fielder's White—early midseason.
Indica Alba (mucronatum)—early midseason.
**King's White—late midseason.
*Mrs. G. G. Gerbing—early midseason, large flowers, Sport of George Lindley Taber.

PINK TO RED

Brillantina (Brillant)—late, red.
**Elegans—early, light pink.
Fisher Pink—midseason, light pink.
**Judge Solomon—midseason, pink with violet red blotch, Sport of Formosa.
*Mardi Gras—midseason, pale pink with rose pink blotch, Sport of Pride of Mobile.
Pride of Dorking—late, carmine red.
*Pride of Mobile (Elegans Superba)—midseason, deep rose pink.
**Southern Charm—midseason, pink, Sport of Formosa.

SALMON TO ORANGE-RED

Daphne Salmon (Lawsal)—late midseason, salmon pink.
**Moss Point Red (Triomphe de Ledeberg)—late, light orange-red.
President Clay—midseason, orange-red.
**Prince of Orange—late, dark orange-red.

LAVENDER TO VIOLET

**Formosa—midseason, magenta, very hardy.
*George Lindley Taber—early midseason, pale lavender pink, large flowers, Sport of Omurasaki.
*Omurasaki (Form of Phoeniceum)—early midseason, violet red, large flowers; not generally available, but valuable for shady location.
Vittata (Fortunei) (Vittata punctata), variety of Simsi—very early (September to February), flowers very variable from almost pure white with faint lavender stripes to self-colored pale lavender. Valuable for its long blooming season.

KURUME AZALEAS

The *Kurume Azaleas* are the hardiest and form beautiful, compact bushes with glossy evergreen foliage. In Houston they appear to do best with high filtered shade and protection from the hot afternoon sun. The small flowers are borne in profusion, some of single type and others hose-in-hose (two perfect corollas, one set within the other). In many cases the difficult Japanese names have been dropped in favor of English names.

There are many *Kurume Azalea* varieties which would do well in Houston, but those generally available are:

Snow—early, white, hose-in-hose, large flowers, blooms best in moderate sun.
Apple Blossom—pale pink with white, hose-in-hose.
Coral Bells—early, salmon pink, hose-in-hose, blooms in sun or shade.
Bridesmaid—pink with yellow, early, large flowers.
Pink Pearl (a Hybrid)—early, pink shaded to light pink, hose-in-hose, blooms in sun or shade.
Salmon Beauty—early, salmon pink, hose-in-hose, blooms in sun to moderate shade.
Christmas Cheer—early, brilliant bright red, hose-in-hose.
Hexe (a Hybrid)—midseason, crimson, hose-in-hose.
Hinodegiri—early, scarlet, single, slow compact grower.

PERICAT AZALEAS

These are a relatively new hybrid (probably from crosses of Belgian Indian Hybrids and Kurumes) which resemble the Kurumes, but which bloom later, grow a little faster and have medium-sized foliage about like the Kurume Hybrid Pink Pearl. They are very hardy and do well in Houston. They bloom well in sun or shade. The varieties generally available are:

Gardenia Supreme—early, white with faint pink blotch, hose-in-hose.
Madame Pericat—late-midseason, pale pink, hose-in-hose with ruffled petals.
Pericat Pink—late-midseason, pink, hose-in-hose with ruffled petals.
Sweetheart Supreme—late-midseason, light pink, hose-in-hose with ruffled petals. When opening they give a rosebud effect.

MACRANTHA AZALEAS

This is a very late blooming evergreen azalea believed to be a *R. indicum hybrid*. They tend to dribble into bloom and reach a peak in June and again in early autumn. They are low spreading plants with good green foliage and have larger flowers than the Kurumes. This group does well in Houston, and the following varieties are available:

Gumpo—white, single, frilled, large.
Macrantha—single, clear pink.
Macrantha—double, clear pink.

BELGIAN HYBRIDS

This is a group of beautiful *azaleas* which were developed primarily for green house culture in Belgium. There are many of them in America, but they have not been tested extensively in southern gardens because they are supposed to be too tender for outdoor culture. It now appears that some varieties are cold hardy and can probably be grown under the same conditions as the Southern Indian Azaleas. The flowers are large, double and have twisted frilled petals. As a group they are some of the most spectacular and beautiful of all evergreen azaleas, and they should be experimented with in Houston and other southern garden areas.

GLENN DALE HYBRIDS

The *Glenn Dale Hybrids* were developed by B. Y. Morrison, former chief of the Plant Introduction Section, United States Department of Agriculture. They are unusual in the great number of different crosses made, the wide range of species from which the parents were derived, and the tremendous number of seedlings from which the numerous named varieties were selected. The different plants cover the entire azalea blooming season for evergreen azaleas and provide for each blooming period plants of a great array of habit, color, and flower form. Only recently introduced in Houston, little is known about their success here. Many varieties should do well locally, and they offer such a range of beautiful bloom that they deserve to be tried. Among those already established here are Glacier, Polar Sea, Treasure, Eros, Refrain and Mary Margaret.

RUTHERFORD HYBRIDS

Rutherford Hybrids, developed for greenhouse forcing, are medium height azaleas with various types of blossoms and colors ranging from white through pink to red, orange-red to purple. The following varieties might possibly do well in this area:

Alaska—white
Albion—white
Christmas Red—red
Constance—pink
Crimson Glory—red
Dorothy Gish—orange-red, frilled
L. J. Bobbink—purple, frilled
Mary Corcoran—rose, white throat
Rose Queen—rose, white throat
Sunset—orange-red, frilled

SATSUKI HYBRIDS

Satsuki Hybrids are late blooming, low growing or dwarf. In general the flowers are single, large, with a white or pink base. Many are striped, flaked or margined with a contrasting color. Many are frilled. There are many named varieties. These hybrids should be hardy in Houston, but there is no record of their cultivation here.

NATIVE AMERICAN AZALEAS

Native American Azaleas are deciduous, and have a long blooming season which varies according to the species and latitude from Florida north into Canada. The flowers are fragrant and the color range includes cream, yellow and orange, as well as the white to pink to red azalea shades.

There is one *species (R. canescens)* native to the southeast Texas area as well as the other southern states. It is usually light pink; the flower resembles a honeysuckle and blooms midseason. Recent experiments indicate that some of the other native species such as the yellow-orange R. austrinum will grow in Houston and bloom late-midseason.

PLANT SELECTION

Buy plants only from reliable nurseries so you can depend on the labeling and previous care of the plants. Select sturdy, fresh looking plants. *Do not buy plants* if the twigs or balls are broken, or the foliage is wilted or ragged looking.

It is essential that the soil in the root ball match the soil in which you intend to grow the plant. For this reason, the balls should be examined before purchase in order to avoid clay balls, peat moss balls and excessively sandy balls.

Clay balls shed water and dry out, frequently killing the plants. If you do have a plant with a clay ball, the following planting procedure is recommended: first, drop the plant on the sidewalk a few times to loosen up the clay so that most of it can be knocked off the root system with a stick; second, soak the root system in a hormone mixture and plant it, thoroughly washing the proposed sandy loam planting mixture into the root system.

Peat moss balls are practically certain death for azaleas when they are planted outdoors in the garden. They absorb excess water from the bed and drown and kill the plants. This should not be confused with the use of peat moss in can or other container culture. Many nurseries grow azaleas in cans and use pure peat moss as a medium to support the root system and use liquid fertilizer to feed the plants. There is no drainage problem while the plants are in containers.

If you buy azaleas which have been grown in peat moss, it is best to wash off most of the peat moss and then soak the root system in a hormone mixture and thoroughly wash a prepared sandy loam mixture into the root system as you plant. Some nurseries use almost pure sand, such as bank sand, or a very coarse sand mixture for container culture. *Sand balls* also take up and retain water from the beds, drowning the plants, and should be treated the same as peat moss balls.

PLANTING

Azaleas may be moved successfully from late October to April. After the blooming season, they start putting on new growth and should not be disturbed until this growth has hardened and the new buds have formed. When planting, care must be taken that the roots do not become dry, and if it is not convenient to plant immediately, the balled shrubs should be kept in a shaded place covered with leafmold, sawdust, or soil and kept moist. Soak the root ball or bare roots for a short time before replanting if plants have been shipped a considerable distance or look wilted. Then let them drain a little before planting.

When ready to plant, select a well-drained location. If you live where there is black gumbo or clay soil, *do not dig a planting hole,* but loosen the soil a few inches deep, set the ball of the plant on top of the ground and build a bed around it. The bed should be as large as the spread of the mature plant. As a rule azaleas should be planted high to insure good drainage. If you have good drainage and sandy top soil, plant by digging a hole twice the size of the ball and six inches deeper; fill in with prepared soil, and place the plant at the same depth that it grew in the nursery. Make the plant firm by washing the soil in around the ball. The burlap may be left around the ball, but it should be cut away from the top of the ball. Be sure there is no excess dirt on top of the ball. After planting, water generously and mulch. For two or three weeks the soil around the roots should not be allowed to dry out. Since a newly transplanted azalea has had its feeding system amputated somewhat, it will need more care through the next year than an old, established plant. For an immediate effect, azaleas may be spaced so that the branches touch. Later when the plants grow and become crowded, some of them may be moved.

SOIL MIXTURE

All azaleas require an acid soil condition with a pH range of 4.0 to 5.5. It is advisable to test the soil once or twice a year to adjust the acidity as constant watering leaches the acid. (See Soil Testing, page 44.) If the soil has a pH value of 6.0 or above, this content should be lowered and kept acid by the use of #16 mesh agricultural sulphur, iron sulphate (copperas) or magnesium sulphate (Epsom Salts). This may be added as a top dressing, like "peppering an egg", and watered in, or the sulphates may be dissolved in water and applied. Use one level tablespoon of sulphate per gallon and water the bed with about one gallon for each two feet of plant diameter. Several weak applications, used at intervals of a month or so, are better than one strong application. The sulphates are quick acting and dangerous to use because they will burn the roots and damage or kill the plants if used in excess.

Chelated minerals, particularly iron chelate, are also being used successfully to counteract alkaline water and soil conditions. These must be used with caution. Particular care should be used to follow the manufacturer's instructions. In applying iron sulphate and iron chelate, remember that all iron compounds will stain masonry and paint.

Because azaleas have shallow-root systems, the soil in which they are planted must be adapted to their needs. If the soil is a friable, acid loam, not much preparation is necessary. Dig up the soil, add well rotted manure and woodsmold, and plant. When special preparations are necessary, it is best to use the following mixture:

2 parts sandy loam
1 part leaf mold
1 part well rotted manure

To each large wheelbarrow of this mixture add one-half pound of #16 mesh agricultural sulphur. If the existing top soil is a good sandy loam, it can be used in the planting mixture; otherwise, all the bed material has to be brought in and mixed. When the soil is prepared in this manner, the plants will not need fertilizing the first year. In preparing the soil near foundations, it is important to remove all bits of mortar and lime.

FERTILIZING

Azaleas should be fertilized immediately after the blooming season. There should also be a second application four to six weeks later if there are numerous other roots from trees and shrubs competing for the fertilizer. In most gardens, the second feeding is not necessary because basically azaleas are light feeders. Because the roots are just below the surface of the soil, the method of feeding is important. For best results, scatter the fertilizer on top of the mulch and gently work it into the mulch with your fingers; then water it in thoroughly. *Do not* cultivate or work the fertilizer into the bed because the azalea roots are at the surface and frequently up in the bottom of the mulch. The roots should not be disturbed. There are a number of excellently prepared azalea fertilizers on the market. In Houston, a 5-10-10 organic base acid-type fertilizer should be used. The amount applied should be in proportion to the size and age of the plant; too heavy feeding is injurious to azaleas. For the feeding of a small plant, a small handful is sufficient; for a larger plant, the feeding should be approximately one handful for each foot of growth. Place the fertilizer under and beyond the spread of the plant but *not near* the stems of the plant. Plants should be watered well to carry the food into the soil. Azaleas should never be fed before February or later than the first of June, as the new growth must harden before cold weather or it will be winter-killed.

DRAINAGE

Good drainage is essential for azaleas. It is usually advisable to raise azalea beds several inches above the garden level so that all surplus water will drain away quickly. In areas of gumbo or clay top soil, the entire bed should be built above ground.

MULCH

Azaleas should never be cultivated, because hoeing or similar types of cultivation destroy the feeder roots just below the surface. Any weeds or grass that come up in the beds are injurious and should be pulled out by hand. The mulch around the plants should be several inches thick and maintained at all times because it is acid in its action and helps to keep the soil beneath moist and at an even temperature. It may be necessary to add to the mulch two or three times a year to keep it deep enough. Pine needles or a mixture of pine needles and small oak leaves are usually available and make a good mulch. Do not use peat moss because it dries out on top and sheds water.

WATERING

Azaleas require sufficient water to keep the roots uniformly moist at all times. Foliage syringing will only temporarily revive wilted plants. The beds should be completely soaked about once a week during the hot summer months and every two or three weeks during the cooler parts of the year if there is not adequate rainfall. When leaves appear wilted, it is a sure indication that the plants need water. While azaleas are in full bloom and while they are setting buds in July and August, they require an unusually large amount of water.

PRUNING

Azaleas need little pruning when the planting is informal. When necessary to prune, do so immediately after blooming before new growth starts, but never later than July first when the flower buds start to form. Do not hesitate to cut back scraggly branches and pinch off lateral buds of new growth, as this will thicken up the plants and increase the next season's bloom. Many gardeners control the shape of azaleas by cutting them while in bloom in order to enjoy the sprays of cut flowers indoors.

In cases where azaleas, particularly the Indica varieties, are planted as a screen or hedge, they can be sheared quite severely with regular hedge shears to thicken up the plants and maintain a desired line or shape. The Kurumes are mainly dwarf types and are particularly useful for borders or low growing mass effects. To conform to a certain design, the plants may be sheared as soon as they have finished blooming back to a size about two or three inches below the desired level. The new growth will fill them out.

WINTER CARE

Azaleas in southern gardens can withstand a temperature many degrees below freezing provided the sap is not rising. If the foliage and wood are well matured and hardened, azaleas are better able to resist a severe freeze. Severe plant damage can result from early hard freezes that sometime come in November. Even if the plants are not damaged, the flower buds can be frozen so that they turn brown and drop off without blooming. This is the reason it is best not to over fertilize and thus stimulate new growth late in the summer. Some growers advocate the early fall use of a nitrogen free (0-20-20) fertilizer, while some Louisiana growers advocate using a light application of five parts superphosphate to one part of potash that will harden and condition azaleas before cold weather. This should be applied in late

September, under the circular spread of the branches in the same manner as other fertilizers. About one pound of this mixture should be used per hundred square feet. It is important to bear in mind that azaleas can be damaged by cold weather, and a dry cold spell is much more harmful than a wet cold spell. When it is cold, the plants should be watered if they seem the least bit dry. Our Texas dry "northers" dehydrate the plants so that it is very important to maintain a high moisture level in the beds. These strong cold winds do much more damage than low temperatures, both to flower buds and plants. Wind breaks such as walls, thick hedges, buildings, etc. are very helpful. High shade from trees helps to prevent frost damage.

DISEASES AND PESTS

Azaleas in good growing condition are seldom troubled with insects or diseases. It is probably advisable to spray once with an oil spray plus Malathion as a precaution in the spring thirty days after the main blooming period. This delay is necessary, because oil spray cannot be used for thirty days after a fungicide spray.

AZALEA PETAL BLIGHT

There is one very serious fungus disease, azalea petal blight, which attacks the flowers but which does not damage the plants. It first appears as small wet-looking spots on the flower petals. The spots rapidly enlarge and spread from flower to flower. The flowers become a wet slimy mass and the blooms in an entire garden can be so destroyed practically overnight. The severity of this disease depends on the temperature and humidity.

Positive control of azalea petal blight can be attained by spraying the flowers with Dithane fungicide two or three times a week during the blooming season, starting as soon as the flowers begin to open.

For 100 gallons of spray:

2 quarts Parzate (DuPont trade name for Dithane fungicide)
1⅛ pounds zinc sulphate
3 liquid ounces DuPont Sticker Spreader.

The Parzate spray should thoroughly cover the flowers, but it should be a fine mist-like spray. The only disadvantage is that it leaves white specks on the flowers. There is another Dithane compound called Wonder Fungicide which reportedly does not speck the flowers.

Warning: Most insecticides and fungicides are poisonous to various individuals in varying degrees. Rubber gloves should be used in mixing and spraying. Take care not to place yourself in a position where spray blows back on you or is inhaled. You should wash face and hands with warm water and rinse eyes with water immediately after spraying.

"LICHEN FUNGUS"

There is a "lichen fungus" disease which attacks the stems and stunts or kills them. It is not known to develop in Houston, but it is present on practically all of the mature azaleas which come in from South Louisiana. It is an odd looking greenish-gray growth on the stems. It can be eradicated by a strong fungicide such as Captan applied with a paint brush.

LEAF GALL

Azaleas may occasionally be attacked by a parasitic fungus, exobasidium leaf gall, which severely distorts the young leaves as they are developing. The leaves appear to be excessively thick and become pale or yellowish-green with a glossy surface. It is controlled by removing and burning all affected leaves.

ROOT ROT

Root Rot is infrequent in azaleas, but it sometimes attacks them. This may be the infection of the parasitic fungus, Phytophthora, which causes the leaves to turn a pale dull green and droop as if in need of water. But the leaves, when watered, do not revive. This disease may cause sudden death of the azalea as a result of infection in the fine feeder roots, evidenced by moist, brown decay at the tips. Sometimes the main root system is infected; the bark is killed, and the cambium is blackened at the soil line. Defective drainage and a heavy compact soil are accessory factors. Correction of drainage and, if necessary, replacing with proper soil, usually overcome the disease.

Another type of root rot is caused by a root-destroying fungus, Clytocybe tabecens, that forms a white, web-like growth looking much like absorbent cotton which covers and girdles the larger roots and makes it impossible for them to function. Sometimes light yellow mushroom growths are produced just at the ground. The plants suddenly turn yellow and wilt. Sometimes death is so rapid, leaves die without being shed. Since there is no warning of the attack, there is little chance of doing anything to save the plant. When plant is replaced, dig a large hole and use only new soil in setting the plant.

CHLOROSIS

Chlorosis (yellowish and dropping foliage) is not a disease but a sympton of cultural deficiencies, most of which result in making iron unavailable to the plant. The most common cause in Houston where the city water is very alkaline, pH 8.4, is an alkaline soil condition. The best acidity for azaleas is 4.5 to 5.0, so it is very easy to get in trouble when much irrigation is necessary with Houston City water.

Iron Chlorosis may be due to:

1. Alkaline soil; pH 7 or higher.
2. Too acid soil; pH below 4.
3. Over watering and poor drainage.
4. Over fertilization.
5. Nitrogen deficiency.
6. Magnesium, calcium, potassium, manganese, boron, phosphorus deficiencies.

Nitrogen deficiency is usually the result of using raw plant fiber such as sawdust or shavings or even stems and leaves as a mulch or as humus in the planting mixture. As the raw plant fiber breaks down, it uses up nitrogen from the soil.

To correct chlorosis, the first step is to determine the probable cause:

(a) Test the acidity of the bed. If above pH 6.0, correct according to instructions under Soil Mixture. If too acid, below pH 4.0, add bone meal in flour form. Move back mulch, sprinkle bone meal on until the ground is fairly white, replace mulch and water well.
(b) Check drainage.
(c) If you have good reason to suspect a nitrogen deficiency because of the plant material added as humus to the planting soil, this condition can be corrected by adding nitrogen as ammonium sulphate like "peppering an egg" and watering it in. *Do not over-do it.*
(d) If no other cause can be found, it may be due to a deficiency mentioned under No. 6 above. Nitrogen, phosphorus and potassium are provided in all acid-forming azalea fertilizers. The others are trace elements which are manufactured and marketed as a chelated mineral mixture which should be applied strictly according to the manufacturer's instructions.

PROPAGATION

Azaleas may be propagated from seed or by stem cuttings, by branch, mound or air layering, by grafting; or, in some instances, by division.

When grown from seeds, variations are to be expected in the resulting plants. The other methods (Vegetative Propagation) are used when plants true to type or variety are required. For detailed information, see chapter on PROPAGATION, page 114. All these methods require considerable time, equipment and skill and are used more by professional growers than by amateur gardeners.

Camellias

The fairest flower that ever saw the light.—Daniel

Camellias were first brought from China to Europe about 400 years ago. Some patriarchs of this aristocratic flower family are now trees thirty feet tall with trunks two feet in diameter. In this country, along the lower Atlantic Coast and throughout the South, they have been highly prized since Colonial Days for their lustrous evergreen foliage and exquisite flowers. During the past decade there has been a great resurgence of interest in camel-

lias. Hundreds of new varieties have been developed; organizations have been formed to study and promote camellia culture, and camellia flower shows and trails are popular annual events.

In the Gulf Coast region two major species, Camellia Sasanqua and Camellia Japonica, fill different roles in the garden, although their culture is identical.

CAMELLIA SASANQUA

The Sasanqua Camellias have smaller leaves and flowers than the Japonicas; but their rapid, hardy growth and free-flowering, spreading forms make them particularly valuable in landscape planting as hedges, mass or foundation planting, and espaliered specimens. The delicate flowers vary in size from one and one-half inches to three and one-half inches and have much the same color range as the Japonicas.

Many varieties have relatively thin petals, and the fragile flowers are not generally as long-lasting as Japonica blooms. Many of the fading flowers tend to shatter instead of falling intact.

Sasanqua plants are suitable for planting in both sun and shade.

The following list is representative of the many fine Camellia Sasanquas available:

BRIAR ROSE—Soft, clear Pink—single.
CLEOPATRA—Rose Pink—semi-double.
CHANSONETTE—Brilliant Pink—large, formal double with ruffled petals.
FLORIBUNDA—White edged Lavender—single.
HANA-JIMAN—White tipped with Pink — fluted petals—large, semi-double.
HIRYU—Deep Crimson Red — small, rose form double.
JEAN MAY—Shell Pink—large, double.
NAVAJO—Rose Red fading to White in center—large, semi-double.
PAPAVER—Soft Pink—large, single of cupped form.
SHISHI-GASHIRA—Red—medium, semi-double to double.
SHOWA-NO-SAKAE—Soft Pink—medium, semi-double to rose form double.
SNOW, OR SNOW ON PEAK (MINE-NO-YUKI)—White—large, peony.
SPARKLING BURGUNDY—Ruby Rose—large, peony.

CAMELLIA JAPONICA

The different varieties of Camellia Japonica produce flowers which vary in size from two inches to over seven inches in diameter and vary in color from white to pink to red, either solid color or variegated with white. The flower formation may be single, formal double, rose form double, semi-double, anemone, or peony. There are early, mid-season, and late blooming varieties which cover a blooming season of over seven months, from September through March in Houston, with late January being the height of the blooming season. Most of the outstanding new varieties have been tested and found to do well in Houston. The following list includes some of these plus the best and most popular of the old varieties:

EARLY BLOOMING:

Arejishi	Red — large, peony to anemone form with mixed petals and petaloids
*Daikagura	Bright Rose Pink splotched White (Ward-Daikagura is a predominantly White sport) —large, loose peony form
Daikagura Red	Solid Pink sport of Daikagura
High Hat	Blush Pink sport of Daikagura
Conrad Hilton	White sport of High Hat
Joshua E. Youtz	White—large, heavy peony form

*Note: The Daikagura family does not bloom well in dense shade.

EARLY TO MID-SEASON:

Alba Plena	White—medium to large, formal double
Debutante	Light Pink—medium, peony
Elizabeth Le Bey	Light Rose Pink—large, to very large, peony form with large petals and erect petaloids
Emmett Barnes	White — large, semi-double with ruffled petals
Ethel Davis	Clear Pink—very large, loose peony
Lindsay Neill	Dark Red marbled White—large, semi-double to peony form with loose twisted petals
White Empress	White—large, to very large, semi-double, prominent Yellow stamens

MID-SEASON:

Adolphe Audusson	Dark Red—large, semi-double

Adolphe Audusson Var.	Variegated with White in varying amounts
Betty Sheffield	White—faintly striped Pink and Red—large, semi-double to peony form with loose petals

Betty Sheffield has several beautiful sports: Pink, Pink variegated, Blush Pink.

Coronation	White—very large, semi-double with large waxy petals
Donckelarii	Red marbled White in varying degrees—large, semi-double
Guilio Nuccio	Coral Rose Pink—very large, semi-double with irregular petals. Possibly the best new camellia for this area
Kerlerec	Cameo Pink—medium, large, semi-double
Lady Clare	Clear deep Pink—large, semi-double
Magnoliaeflora	Blush Pink—medium, semi-double
Mathotiana (Purple Dawn)	Crimson, sometimes with Purple cast—large, to very large, formal double, also a variegated form
Mathotiana Supreme	Sport of Mathotiana with same Crimson color — very large, semi-double with irregular petals; outstanding
Mrs. Baldwin Wood	White faintly striped Pink—large, semi-double to rose form double

Thelma Dale is the Pink sport of Mrs. Baldwin Wood, and Charlotte Bradford is the Pink-variegated-White form.

Pink Perfection	Soft shell Pink—small, formal double
Tomorrow	Strawberry Red—very large, semi-double with irregular petals and large petaloids (also variegated, blush Pink and predominantly White form); outstanding
Ville de Nantes	Dark Red blotched White—large, semi-double with upright fimbriated petals

MID-SEASON TO LATE:

Elegans (Chandler)	Pink—large, anemone form
Elegans (Chandler) Var.	Variegated Pink blotched White
C. M. Wilson	Pale Pink sport of Elegans
Shiro-Chan	White sport of C. M. Wilson
Mrs. D. W. Davis	Blush Pink—very large, semi-double; outstanding
Primavera	Clear White—medium, formal double to peony form
Rosea Superba	Pink—large, formal double

LOCATION

The climate, soil and water of the Houston area are far from ideal for camellias but *if proper cultural practices are maintained*, they will flourish and bloom luxuriantly. With few exceptions, we do not have an ideal sandy loam and good drainage; instead, most of the area is flat and poorly drained, and the soil is a heavy, dark gumbo or light-colored clay. This necessitates using prepared soils for camellias and selecting well drained locations where they will have high tree shade in summer and some protection from hard north winds in winter.

PLANT SELECTION

Camellias may be planted any time during their long-flowering period from October to April. It is advisable to select plants while they are in bloom, as a blooming plant leaves no doubt as to variety. However, early planting, before February 1, gives them time to make new root growth and become established before hot weather starts. Good medium-sized plants, which are two or three year old grafts, on strong root stock will bloom the first year. Select healthy fresh-looking plants with clean dark green foliage and no evidence of dead twigs or scale. Examine the ball of a burlapped plant carefully to be sure that it is not broken and that it is large enough (about one foot in diameter for each one inch diameter of the plant stem). The dirt in the ball should be of a sandy loam similar to the bed material so the two will blend into a homogeneous mixture. As a general rule it is best to avoid clay balls, as they become hard, shed water and plant food, and kill the plant; also avoid sand balls and coarse can planting mixtures which absorb and retain too much water and drown the plants.

PLANTING

To plant a camellia, DO NOT DIG A HOLE! Allow generous space for future growth. Loosen the top soil down a few inches, set the ball of the plant on top of the ground, and add prepared soil around it. Do not put dirt on the top of the ball. Prepare the planting soil by mixing one-half good sandy loam, one-quarter leaf mold, one-quarter well-rotted manure, and a little sharp sand, plus one cup of sixteen mesh agricultural sulphur per large wheelbarrow load of mixture. The sulphur is an important ingredient in Houston, for camellias require an acid soil (pH 5.5-6). Settle the bedding mixture around the ball and wash in well, so there are no air pockets. Cut burlap from the top of the ball, and be sure there is no excess dirt over top feeder roots.

However, if the dirt of the balled or canned plant is not similar in texture and content to the soil in which it must now grow, it is advisable to plant it bare-rooted. Wash all the soil from the roots and treat the roots with a plant hormone substance according to the manufacturer's instructions. Keep roots wet. Canned plants which have a complete root system may now be settled in the bed. Field grown plants which have lost some roots being dug and burlapped should be heeled-in in sawdust for several months, so new root growth will be put out prior to bare-rooting.

To plant a bare-rooted camellia, prepare a complete planting bed above ground surface as previously directed, allowing at least two and one-half feet diameter of bed area for each one inch diameter of the trunk of the plant. This may rise eight to twelve inches above the ordinary level of the ground. In this artificially well-drained bed, you may now dig a hole and arrange a cone of soil on which to set the bare roots of your camellia. Complete the planting procedure with soil around the roots; water down, and later add just enough soil to cover the top feeder roots.

The final process for camellias is to add a thick mulch of at least four inches of pine needles (or oak leaves), which keeps the bed from drying out and weeds from growing. Cane litter (bagasse), rice hulls, or other coarse plant material may also be used. Peat moss should not be used as mulch because it packs, dries, and sheds water. Beds so elevated to give perfect drainage may be protected against washing away by heavy edgings such as Liriope or Dragons Beard, or by artificial means such as rocks or strips of hardware cloth, using ivy to conceal the mechanics.

Camellias must have an acid soil, but too acid (low pH) is just as bad as too alkaline (high pH). A small soil test kit which is simple to use will take the guesswork out of maintaining the soil at the proper pH level. Test the soil twice each year when much alkaline city water is being used. Usually it is necessary to add acid to counteract the city water. A light sprinkling over the bed of 16 mesh agricultural sulphur will usually be adequate when the soil tests pH 5.5 to 6.5. If the soil tests pH 6.8 or higher, it is best to also use a quick acting chemical such as iron sulphate (technical copperas) or iron chelate. These are strong chemicals which can easily burn the feeder roots if large doses are used. *Use cautiously.* Usually one tablespoonful in one gallon of water sprinkled over the foliage and bed of a five foot plant is adequate. If the bed is very alkaline this treatment may be repeated after two weeks. If the beds test pH 4.5 to 5.0 do not add acid. If the beds test very acid, pH 4.0 or lower, bone meal or a little agricultural lime may be used to raise the pH.

Sickly, yellow, chlorotic plants may be too acid, too alkaline, or lack drainage.

DISEASES

Healthy, robust plants, which have been properly planted in a suitable bed mixture, adequately watered, and kept slightly acid, will not be particularly subject to disease.

Tea scale infection is the most common problem in this area, as it also infects the native hollies, particularly yaupon, which are so numerous they cannot be sprayed. It appears as small white specks and small brown specks considerably longer than wide. In the active stage, this scale is cottony-looking stuff on the bottom of the leaves; and when the infection is severe, the top of the leaves becomes yellow and mottled. The scale is actually a sucking insect which attaches itself to the leaf of the plant and sucks out the plant food and fluids and eventually starves it to death.

In addition to scale, aphids give some trouble on the new growth. Also, chewing insects and bugs, which inhabit the mulch around the beds, come up at night to feed on the new foliage. These do not injure the plant, but the foliage will be chewed full of holes and become unsightly.

The best treatment for all of these problems is to spray with a combination of Malathion and an oil spray such as Oil-i-cide. The Malathion will control the aphids, the oil spray will control the scale infections, and when the bed in the vicinity of the plant is sprayed, the combination will control the other bugs and chewing insects. It is usually necessary to spray twice in the spring after all danger of frost is past and before the weather gets too hot. An oil spray should not be used when temperatures get up above 90 degrees or later than October 15, as an oil-sprayed plant would be particularly vulnerable to an early freeze.

In addition to the spraying, it is helpful to sprinkle a little Chlordane around the camellia beds to kill off ants, which like the porous sandy camellia bed as their home and nesting place.

Dieback is a serious disease of camellias in the Gulf Coast area. It is caused by a fungus which enters the plant where there has been a break in the bark or where a leaf has dropped off. It appears as an odd-looking scar which spreads and destroys the bark and the cambium layer and will kill the limb and sometimes the plant when it girdles the trunk. This infection may also cause new foliage to wilt, turn brown, and die. There is considerable difference of opinion about the control of dieback and even its cause. Plants which have been given too much high nitrogen fertilizer seem more susceptible, as do those in too acid a soil, pH 5.0 or lower. There is no guaranteed cure for the fungus which causes dieback, but spraying with a fungicide such as 50% Captan will usually help. When pruning or grafting, sterilize the plant and tools with a Captan solution as a precaution against infection. Bear in mind that fungicides must not be mixed with oil sprays or used just before or after oil sprays, as such a mixture of chemicals will defoliate and seriously damage the plants.

The most serious camellia disease, CAMELLIA PETAL BLIGHT, does not injure the plant but destroys the flowers. It is a fast spreading fungus infection which attacks the flowers and ruins them with large slimy brow splotches. This disease is not yet known t exist in Houston but extreme precaution should be taken. Do not buy plants in di from quarantined areas. Keep all old bloom picked up. If you suspect trouble, consult recognized camellia authority or contact th State Commissioner of Agriculture at Austi or Texas A. & M. College.

FERTILIZATION

Fertilization is probably the least importan aspect of camellia culture. A little fertilize goes a long way, so be sure not to over fertilize. Also avoid high nitrogen fertilizers A 5-10-10 acid fertilizer balanced especiall for camellias and azaleas may be purchase under several brand names and used according to directions. The amount and frequenc of fertilization will vary with conditions i your garden and what you are trying to accomplish. It is best to start with two fairl light applications in the spring—the firs shortly after the plants have finished bloomin and the second about a month or six week later. Ordinarily, this is sufficient; but if th plants are competing with large tree root or are growing in sandy, porous soil whic has a tendency to leach out, it may be advisable to give them a little foliage feedin with liquid fertilizer as a small additiona boost in the early summer. At this time, a soon as flower buds can be distinguished fro growth buds, twist off all of the twin bud except one on each stem to produce a larger more perfect flower. If a mass effect or longe flowering period with smaller blossoms is desired, do not disbud. If specimen flowers ar wanted for a special occasion, a light fertilization about one month previous to the expected date will help the plant mature ripening buds to blossoms of maximum size an vitality. The average gardener should be ver cautious with any of these experimental procedures. The best advice is: Be moderate wit your fertilizer.

PROPAGATION

Camellias can be reproduced by the usua propagation methods: cuttings, layerings grafts, or seeds. However, seeds will not reproduce true to the parent bush, so propaga tion of the rare varieties is done by grafting scions by the cleft graft method on large sasanqua camellia root stock. (See Propagation, Page 119.) It is possible to have a good specimen blooming plant at the end of about three years; but as a rule, it is cheaper and more satisfactory to buy well established, healthy, two or three year old grafted plants from the nursery.

Summer and winter care of camellias, as well as watering, is similar to azaleas. (See Page 71).

Roses

There we will make our beds of roses.—Shakespeare

Beautiful roses may be grown in Houston—if certain fundamental essentials are provided. It is only necessary to secure good bushes, plant them properly in well-prepared soil, maintain a regular dust or spray schedule, water and feed with discretion, and keep spent blooms removed.

LOCATION OF BEDS

Since the rose is a shrub, it may be used in many ways in the over-all garden design. However, in most cases, stronger plants with a more effective show of bloom may be had if the rose bed is set apart from other shrubbery. Like most blooming plants, it must have sun, a minimum of four hours a day. Locate the bed away from strong-growing shrubs and trees, which rob the plants of moisture and food. In the Houston area, roses bloom nine or ten months out of the year, so provide adequate service walks around and through the garden to facilitate the cutting of blooms and the care of the plants. Another requirement is to select an area that has good drainage; roses like water but not wet feet. Keeping these considerations in mind, select from the many attractive bed designs the one most suited to your garden.

PREPARATION OF BEDS

Soils in and around the Houston area vary considerably; therefore, we will consider only the essentials for all types. As stated above, we must have drainage, either natural or man made. Under no circumstances should the soil be removed and rock, tin cans, or brickbats, etc., be put in for drainage. This will drain the water from surrounding areas into the rose bed. The result will be exactly the opposite from what was intended. If there is no natural drainage, drain tile may be used if there is a lower area to carry the water away. In our flat coastal country, however, where we have tremendously heavy rains on occasion, a form of drainage can be attained by raising the bed from four to eight inches above ground level.

The roses will profit if the bed is prepared ahead of planting time, but this is not absolutely necessary. Early preparation allows the ground to settle and the added ingredients to blend into the soil. In making the bed, if the soil is productive—and our black gumbo is very good—do not remove the soil. Instead, incorporate into it great quantities of humus-forming material. Dig and mix thoroughly into the top eight or twelve inches of soil the equal of three to five inches of old barnyard manure, peat moss, well-rotted oak leaf compost, or a mixture of all three. This will provide a good, friable, moisture-retentive soil. In addition to the above, the following items may be added: Superphosphate, Bactex, a small amount of a balanced rose food, and if bed is prepared several months in advance, cotton seed meal. Superphosphate is especially recommended because this essential food element is difficult to get into the root area after planting. If it is known that the soil is alkaline, and most of this area is alkaline, a small amount of agricultural sulphur may be added. This will acidify the soil, which will be beneficial since the rose does best with a pH of about 6.5.

Well-grown roses in Houston attain greater size than in most areas. This should be taken into account when bed size is considered. A single row of roses should be at least three

feet wide, a double row at least four feet. All walkways should be at least four feet wide also. Beds may be formally bordered with brick, redwood boards, or any other blending material desired; or the raised bed may be contoured down smoothly to the lawn level without any border. An evergreen hedge is not recommended as a border material; it will reduce the circulation of air through the plants and will make them more difficult to service.

TIME FOR PLANTING

The best time to plant dry root roses is during the months of December, January, and February. Always order from a reputable nursery in plenty of time to allow for packaging and shipping and specify number one plants only.

As with many other things, progress has been made in the marketing of rose plants. We now can see the plants before making our selections. This has been brought about by a technique practiced by some of our local nurserymen—the potting of dry rooted plants in good rooting soil in tar paper containers. These plants immediately take root and begin to grow. They may be put into the bed any month of the year. Another advantage is that the planting loss is greatly reduced.

CARE ON ARRIVAL

If plants are ordered from a distant nursery, be sure to inspect the plants on arrival. If possible, plant that day. If packing material is dried out from heat in transit, a small amount of moisture may be added by means of damp sphagnum moss or other material. This will keep plants for a day or two if kept in a cool place. If still unable to plant, heeling in is recommended (the burying of all roots and most of the top in a horizontal position in moist soil). They will keep in this condition for about ten days. If the plants are potted, keep watered well until planted.

PLANTING

The planting and early care are the most important steps in the building of a good rose garden. Regardless of whether the plants are plump and turgid or dried out on arrival, soak the roots or most of the plant in a tub of water just before planting, the time varying with the need. A plump plant should soak from thirty minutes to one hour, a dried out plant overnight—no longer. Never let the roots dry out even for a few minutes. Have the hole ready before removing the plant from the tub of water. In the previously prepared bed, dig a hole about twenty-four inches in diameter and about ten inches deep. Shape some dirt into a cone-shaped mound in the center of the hole. Now remove a plant from the water, hurriedly check for broken or damaged roots, remove these with a pair of sharp shears, clip the ends from all large roots only. Usually the roots of a rose have a natural spread that will fit down over the prepared mound; however, in any case the mound should be modified to the shape of the root system on each individual plant. Some forcing is permissible, but it is better if roots can be fitted comfortably.

It is important that the rose be replanted at approximately the same depth in the soil in which it grew in the field. Usually it will be found that the roots were covered from one and one-half to three inches, placing the bud union above ground where it should be. Adjust the height of the plant when resting on the mound to pregrown elevation. Next start filling in around roots with either a little fine-textured prepared soil or the best material removed from hole. Work this dirt in, around, and on top of roots very firmly for a depth of several inches. When hole is refilled, about two-thirds, fill the depression with water twice. After all water has soaked in the second time, use the remainder of dirt to finish filling hole—do not pack. Now cut all broken or weak canes and cut back remaining canes leaving from six to ten inches depending on size of plant. Make cut on a slant just above an outside eye. Any excess dirt may be piled up around plant but must be removed when buds start to break. About three days after planting, water again thoroughly; continue to water weekly until good growth is in evidence.

The name label should be removed from the plant and placed on a separate support. If a large planting is made, a plot plan is advisable. Maintaining correct names will add to your enjoyment.

The placing of the potted rose plant into the permanent bed should be the same as any other potted shrub. Dig the hole slightly larger than pot diameter and to a depth gauged by the dirt height. Plant at same level as in container. Cut container from soil ball, taking great care not to allow the dirt to fall from the roots. Place in hole and pack soil snugly around until near top. Stop at this point and water well twice. After all water has soaked in, fill remainder to level of bed—do not pack. Keep plant watered every few days for a week or two.

Our long growing season promotes extra plant growth; this has to be considered when planning the spacing in the bed. Thought must also be given to the hardiness of the individual plants selected. However, in general, the following may be used as a guide: Climbers 6′-10′; Grandifloras 3′-6′; Hybrid Teas 30″-42″; Floribundas 18″-30″; Polyanthas 12″-18″.

FEEDING

Since the rose is a producer of beautiful blooms almost all year long, it must be supplied with food. And because of this long working period, it cannot all be supplied in one big application. Most of our modern roses are croppers; that is, they are repeat bloomers. Immediately on completion of one bloom-out they will, if food and water are supplied, start another crop. An all-around yearly feeding program would consist of an early spring feeding of a complete rose food plus some organics, such as cotton seed meal. This first feeding should be the heaviest. If you mix your own food elements, let the nitrogen content be high. Through the summer use a balanced ration, and in the fall change to low nitrogen. Plants then will not approach winter in a soft, succulent condition. Otherwise, any *rose food* marketed by a reputable manufacturer will serve well for all year feeding. Use in amounts as directed. Repeat in more or less regular periods—thirty to sixty days all summer.

In addition to soil feeding, a new form of feeding has come into general practice in recent years. This is foliar feeding, the supplying of food to the plant through the leaves. It is not recommended that this type of feeding take the place of soil feeding, but rather supplement it. The two together will keep the plants vigorous and will produce blooms with more substance. Foliar feeding may be done in any manner that puts the diluted solution in contact with the leaves, but the most practical way is to incorporate it with the fungicide insecticide spray. It has been found to be compatible with almost all of these materials. The frequency recommended is every other week.

A word of caution. Food has to be in solution before it can be taken up by the roots. A thorough watering of the bed before feeding and again afterward will dilute the strength of the food to the extent that it can be assimilated without a shock to the plants. This deep watering will also tend to carry the food down to the lower root area.

WATERING

Roses enjoy an abundance of water. If a rose is not doing well, don't feed—water. It has been said that roses love water more than food, so never feed without watering. Use soaker, and water thoroughly when needed in spring and fall. Water weekly all summer. An occasional watering from above is desirable during long dry spells; this should be done before late afternoon, so foliage will dry before nightfall.

MULCHING

A summer mulch is any material that will help hold water, lower soil temperature around the roots, and reduce the need for cultivation. There are many useful results derived from various mulches. For instance, any humus-forming material will aid soil conditioning and supply needed bacteria. Inasmuch as a mulch is almost a necessity for success in growing roses in our area, here are a few good ones:

COW MANURE One of the best. Can be used in any stage from fresh to very old. Apply generously. May have better appearance if clods are broken up or put through a grinder.

BAGASSE (Cane pulp). An excellent mulch for this area, possessing unusual ability to hold water and slow to disintegrate.

COTTON SEED HULLS A good soil conditioner. Will tend to run together and form a mat. Better if mixed with one of above.

PEAT MOSS Dries out and crusts over. Not recommended by itself. Excellent if mixed with some or all of above. Acid-forming.

OAK LEAVES
PINE NEEDLES Both are good. Both are acid-forming. Better if partially broken down in compost pile.

REDWOOD SHAVINGS Fulfills almost all requirements of a good mulch. Excellent appearance. Slow to disintegrate. Adds little to soil.

PEA GRAVEL This material can be used to great advantage where the color of the stones add to your garden color scheme. Permanent. Adds nothing to soil.

MIXTURE A mixture of any or all above may be used in any amounts at hand.

GRASS CLIPPINGS May be used green if care is taken to apply only in one-half inch layers. So applied, the grass will quickly dry out without fermenting and heating. Three or four such layers may be applied during the summer and may be turned under the surface in the fall.

PEST CONTROL

There are rose pests here as elsewhere. The most troublesome ones in the Houston area, however, are Blackspot, Mildew, the red spotted spider mite, and thrip. The first two are fungus diseases, whereas the last two are insects. They all can be controlled by setting up and following a regular spray or dusting program.

Weekly applications in the spring and fall, with only an occasional dose during the hot summer months, will usually suffice. New and more effective fungicides and insecticides are coming from our laboratories every year. Rather than naming the ones most popular at this time, it is suggested that inquiring through your garden club, your local nurseryman, etc., would be the best way to keep up with the up-to-date improvements of these products.

The principal thing is to spray or dust regularly and effectively. The frequency and the amount of material used will have little effect unless properly applied. The whole leaf must be covered, particularly the underside. The underside is far more important than the upperside. This is also true if you use a foliar food. There is greater absorption from the underside so strive for complete coverage.

PRUNING

If we use Webster's definition of pruning, "The removing of superfluous twigs and branches," then the cutting of spent blooms would be classed as such. First year plants need all the leaves they can produce to help build strong roots and stems. Therefore, remove the first bloom without any leaves. Later on during the year, it is permissible to cut down to the first five-leaf leaflet. In fact, this is good practice on all plants except those that are extremely strong growers. The cutting of longer stems helps keep them under control. On second year and on mature plants, stems may be cut to the lowest leaf on branch on occasions only. If a practice is made to leave at least two sets of leaves on the branch, a stronger plant and more blooms will be produced. In addition, keep nonproductive shoots cut off all year long. Also, look for dead canes; remove to live wood even if the cane has to be cut back all the way to the bud union.

Depending on the weather, the annual pruning time should be between the middle of January and the middle of February, just before the spring buds break. This date is hard to predict. Early pruners are taking chances. Late pruning is safer but gives later spring bloom. The physical operation of pruning should be done in the following order:

1. Cut all dead wood.
2. Cut out all weak or diseased canes.
3. Cut out crossed or rubbing canes.
4. Cut off about one-third of previous year's growth on all remaining canes. Make all cuts on a slant about one-fourth inch above a strong bud, preferably an outside bud.
5. Treat cut ends larger than a pencil with orange shellac or other recommended preparations.
6. Clean up all debris—twigs, leaves, etc.—

from the bed. Strip all remaining leaves off plants—this is very important.

7. Spray canes and bed with a good "clean-up" spray such as Calsul.

The rose plants are now ready for their first spring feeding and another year of beautiful roses may be anticipated.

CUTTING OF BLOOMS

Cut roses late in the afternoon or early in the morning. Place stems in warm water eight to ten inches deep or almost to the bloom; set aside and let cool to room temperature. Refrigerate at thirty-two to thirty-four degrees for several hours before arranging.

CLASSIFICATION OF ROSES

The classification of roses is sometimes based on origin of species and sometimes on growth habits, flower form, or some other distinguishing characteristic. With the passing years and continuous interbreeding, many classes have emerged, overlapped, or even disappeared. However, the two main divisions of roses remain: bush roses with upright shrubby growth, and climbing or trailing roses with long canes requiring support. The climbers, vigorous, hardy, and lovely, are used in landscape work to cover fences, trellises, arbors, and banks. They comprise only one-tenth of all catalogued roses. Bush roses are subdivided into the following major types:

HYBRID TEAS (descendants of the true Teas, which bequeathed them the habit of continual bloom). They are distinguished by their long pointed buds, large size, elegance of form, fragrance, and wide range of color. Favorites of florists, exhibitors, and gardeners alike, they are the most important class of roses.

HYBRID PERPETUALS. Vigorous and disease-resistant, they make one large display in the spring and bloom sparsely in the fall. The flowers are large and fragrant, mostly crimson, pink, and white; but they lack the elegant form of the Teas. Two famous hybrid perpetuals are the American Beauty and the pure white Frau Karl Druschki.

POLYANTHAS. Dwarf, bushy plants bearing small flowers in clusters, they are continuous bloomers from April to December. They are excellent for mass effects and low hedges or borders.

FLORIBUNDAS (new name for hybrid polyanthas). Produced from crosses of polyanthas and hybrid tea varieties, they grow taller and have larger flowers than the polyanthas. They may be used for hedges or bedding and last remarkably well as cut flowers.

Hybrid teas, hybrid perpetuals, polyanthas, and floribundas all have climbing varieties.

GRANDIFLORAS (the newest class of roses—a cross between the hybrid tea and the floribunda). These plants have the vigor and the blooming habit of the floribunda with the flower form of the hybrid tea. Among the few varieties so classified is the Queen Elizabeth, which will reach eight feet by the second year.

Other types include:

SHRUB ROSES. A miscellaneous group of wild and hybrid species, they produce mostly single blooms on hardy upright plants. They have fine glossy foliage and bright fall fruits. Some are good as hedges, screens, or in mixed planting with other shrubs.

TREE OR STANDARD ROSE. This classification refers to a plant form, not a flower type. Any bush variety and some climbers may be budded at the top of a straight understock two to four feet tall and then trained to a standard. Beautiful in formal or modern gardens or as an accent among other roses.

MINIATURE ROSES. Related to *rosa chinensis,* they are only six to twelve inches high with blossoms less than an inch across. They have recently become popular as edgings, borders, and patio plants.

OLD-FASHIONED ROSES. Species, hybrids, and varieties introduced more than fifty years ago are classed as "old roses." Familiar among them are the Tea, Cabbage, Moss, China, French, and Damask Roses. Very fragrant, vigorous, and practically disease-free, they bloom profusely in June. They may be used in almost every way in the garden but do not combine well in plantings with modern hybrid roses. Complementing the Nineteenth Century charm of the reconstructed Nichols-Rice Home in Sam Houston Park in downtown Houston, there is an old-fashioned garden featuring the following old roses:

Duchesse de Brabant	Tea	1857	Pink
Bon Silene	Tea	1839	Rose
Safrano	Tea	1839	Apricot
Crested Moss	Moss	1827	Pink
Salet	Moss	1854	Pink
Hermosa	China	1840	Pink
Maiden's Blush	Hybrid Alba	1797	Pink
Stanwell Perpetual	Spinosissima	1838	Blush
Austrian Copper	Brier	1596	Yellow-vermillion
Souvenir de la Malmaison	Bourbon	1843	Blush pink
Common China	Tea	1600	Pink
Devonensis	Tea	1841	White-pink

Other old roses recently grown here:

LaFrance	First Hybrid Tea	1867	Silvery pink to bright pink
Lady Banksia	Large climber	1796	Yellow
Green Rose	R. Chinensis Verdiflora	1855	Green leaf-petals
Empress Josephine	R. Gallica	1770	Silvery pink to deep rose
Cecile Brunner (Sweetheart Rose)	Floribunda	1881	Pink on yellow
La Noblesse	R. Centifolia	1856	Light pink with carmine center
Louis Philippe	China	1834	Crimson
Paul Neyron	Hybrid Perpetual	1869	Clear pink to rose
Marie Louise	Damask	1813	Rich pink
Lady Hillingdon	Tea	1910	Yellow

Listed below are some of the many new and old roses now being grown in the Houston area:

Plant Types

HT — Hybrid Tea
Fl. — Floribunda
Pol. — Polyantha
C — China
Gr. — Grandiflora
HP — Hybrid Perpetual
Cl. — Climber
T — Tea

Relative Plant Size:
L—Large M—Medium S—Small

GARDEN ROSES

Size	*Name*	*Type*	*Color*
L	Bravo	HT	Red
L	Carrousel	Gr.	Red
M	Cecil Brunner	Fl.	Pink
S	China Doll	Pol.	Pink
S	Crimson Rosette	Fl.	Red
M	Donald Prior	Fl.	Red
L	Duet	HT	Salmon Pink
L	El Capitan	Gr.	Red
M	Fashion	Fl.	Pink Blend
M	Fire King	Fl.	Red
M	First Love	HT	Pink
M	Frolic	Fl.	Pink
M	Fusilier	Fl.	Red
L	Garden Party	HT	Pink & White
M	Geranium Red	Fl.	Red
M	Gold Cup	Fl.	Yellow
L	Good News	HT	Pink
M	Gruss an Aachen	Fl.	Pink
M	Heat Wave	Fl.	Orange & Red
M	Ivory Fashion	Fl.	Ivory
L	LaJolla	HT	Pink Blend
M	Little Darling	Fl.	Yellow Blend
L	Mission Bells	HT	Pink
L	Mme. Henri Gillot	HT	Red Blend
M	Night	HT	Red
L	Pink Favorite	HT	Pink
S	Pinkie	Fl.	Pink
S	Pink Rosette	Fl.	Pink
M	Pinocchio	Fl.	Pink Blend
S	(Rose) Rouletti (Min.)	Pol.	Pink
M	Snow Bird	T	White
L	Starfire	Gr.	Red
M	Spartan	Fl.	Red
S	Summer Snow	Fl.	White
L	Tallyho	HT	Red
S	Topaz	Pol.	Yellow Blend
S	Valentine	Fl.	Red
M	Virgo	HT	White

ROSES FOR FRAGRANCE

Size	*Name*	*Type*	*Color*
M	Arlene Francis	HT	Yellow
M	Briarcliff	HT	Pink
M	Bronze Masterpiece	HT	Bronzy Yellow
L	Capistrano	HT	Pink
M	Chrysler Imperial	HT	Red
L	Confidence	HT	Pink

L	Crimson Glory	HT	Red
L	Dainty Bess (Single)	HT	Pink
M	Etoile de Hollande	HT	Red
L	Golden Masterpiece	HT	Yellow
L	K. A. Victoria	HT	White
M	Mark Sullivan	HT	Orange Blend
L	Mirandy	HT	Red
M	Torch Song	HT	Orange Red
M	White Bouquet	Fl.	White

ROSES FOR LASTING CUT FLOWERS

Size	*Name*	*Type*	*Color*
M	Amy Vanderbilt	Fl.	Mauve
M	Circus	Fl.	Yellow Blend
L	Floradora	H	Orange Red
M	Garnette	Fl.	Red
L	Mojave	HT	Orange Blend
L	Montezuma	Gr.	Orange Red
M	Peace	HT	Yellow & Pink
L	Pink Peace	HT	Rose
L	Roundelay	Gr.	Red
L	Tiffany	HT	Pink Blend

ROSES FOR SHOW BLOOM

Size	*Name*	*Type*	*Color*
M	Blanche Mallerin	HT	White
L	Buccaneer	Gr.	Yellow
M	Burnaby	HT	Yellow
L	Charlotte Armstrong	HT	Pink
M	Chrysler Imperial	HT	Red
M	Countesse Vandall	HT	Pink Blend
M	Crimson Glory	HT	Red
M	Etoile de Hollande	HT	Red
M	Forty Niner	HT	Red Yellow
L	Golden Masterpiece	HT	Yellow
M	Happiness	HT	Red
L	Helen Traubel	HT	Pink
L	Katherine T. Marshall	HT	Pink
M	McGredy's Sunset	HT	Yellow
L	Mirandy	HT	Red
L	Mojave	HT	Orange Red
L	Montezuma	Gr.	Orange Red
M	Peace	HT	Yellow-Pink
M	Picture	HT	Pink
L	Pink Peace	HT	Rose
L	Queen Elizabeth	Gr.	Pink
L	Show Girl	HT	Pink
L	Texas Centennial	HT	Red
M	The Doctor	HT	Pink
L	Tiffany	HT	Pink
M	Torch Song	HT	Orange Red
M	Tzigane	HT	Red Yellow
M	White Knight	HT	White

ROSES EASY TO GROW

Size	*Name*	*Type*	*Color*
L	Banksia	Cl.	White
L	Banksia (Lady)	Cl.	Yellow
L	Betty Prior	Fr.	Pink
L	Cherokee	Cl.	White
L	Columbia	HT	Pink
L	Descanso Pillar	Cl.	Pink
L	Frau Karl Druschki	HP	White
L	Frensham	Fl.	Red
M	Garnette	Fl.	Red
L	Golden Showers	Cl.	Yellow
L	Helen Traubel	HT	Pink Blend
M	Louis Phillipe	C	Red
L	Mermaid	Cl.	Yellow
M	Ma Perkins	Fl.	Pink
S	Margo Koster	Pol.	Orange Blend
L	Mrs. Charles Bell	HT	Pink
L	New Dawn	Cl.	Pink
S	Orange Triumph	Pol.	Orange
L	Paul Neyron	HP	Pink
L	Paul's Scarlet	Cl.	Red
L	Queen Elizabeth	Gr.	Pink
L	Radiance	HT	Pink
L	Red Radiance	HT	Red
M	Rose Elfe	Fl.	Pink
S	The Fairy	Pol.	Pink
L	Climbing sports of many hybrid teas		

Bulbs

I walk down the garden paths,
And all the daffodils
Are blowing, and the bright blue squills.
—Amy Lowell

The general term "bulbs" includes true bulbs, corms, rhizomes, tuberous roots and other variations. (For descriptive classification see Division, page 117.)

The popularity of growing bulbs in this area increases each year, as more gardeners realize that no other genus of plants offers richer rewards for effort expended, nor a

wider field for experiment. Most bulbs require minimum care and space, and once correctly established, many send up their lovely blossoms with seasonal regularity and increase in numbers and beauty as the years pass.

Most bulbs thrive best in a sunny location in a neutral (*p*H7), *well-drained* sandy loam that is porous and crumbles easily. Bulbs should be fed *when* planted with bonemeal in a mixture of sharp sand placed in the bottom of the planting holes. Dusting with a plant hormone powder, after slightly moistening base of bulb, is a practice advocated by many growers to induce quicker and more vigorous root systems. Bulbs should be fed well *after* blooming to develop as much foliage growth as possible, using bonemeal, Fertiloam, or a mixture of superphosphate and one of the commercial dried manures. This may be lightly scratched into the ground above the bulb with a hand tool, or dissolved in water before applying. *Fresh manure should never be used for any bulbs.*

The planting depth depends largely upon the size of the bulb, but a good general rule is to plant 3 times the thickness of the bulb. Notable exceptions to this rule are lilies whose stemroots require deep planting to develop anchorage, and iris rhizomes which are planted just under the surface. When planting instructions give a specified depth, it means that the bulb should be *covered* with that much soil. Most small bulbs should be spaced approximately 2 or 3 times their diameter apart, larger bulbs about 5 times their diameter apart, unless the plants have a spreading habit of growth, when the space should be increased accordingly. After planting, the soil over the bulbs should be firmed down well with the finger tips to exclude air pockets.

Bulb foliage should never be *cut until it is brown and dried* because the leaves are essential in the production of food to be stored up for the next year's flowers. The yellowing tops may be braided, fastened into tight clumps with raffia or elastic bands, or tied into knots, to give a neater appearance while maturing. Some gardeners use interplantings of shallow rooted annuals to hide the ripening foliage. After blooming, withered flower heads should be broken off to prevent formation of seed pods. A great many bulbs *naturalize* and are left undisturbed in the ground from year to year, where they multiply. When naturalized bulbs show signs of crowding, after 3 or 4 years, they may be lifted and transplanted. Other bulbs thrive better when annually lifted, dried, dusted with sulphur, and stored for a few months rest. Shallow boxes are commonly used for storage for large numbers of bulbs, but for smaller amounts, small bags may be used to hang in a cool, dry place, labeled and separated according to varieties.

Good bulbs are essential. As a general rule, older varieties cost less than recent introductions and are still choice. However, most bulbs are a permanent investment which give much pleasure and satisfaction through years to come, and it is important to consider the merits of the newer varieties. Many of the less known species of small bulbs should be more generally grown here, but need to be planted in groups or masses to be fully appreciated. (See Bulb Chart for detailed information, Page 130.)

AMARYLLIS FAMILY *(Amaryllidaceae)*

Some of the handsomest plants grown in this area are Amaryllids. This large group includes hybrid Amaryllis, Amarcrinum, Alstroemeria, Chlidanthus, Clivia, Crinum, Cooperia, Eucharis, Habranthus, Haemanthus, Hymenocallis, Ismene, Leucojum, Lycoris, Narcissus, Sprekelia, Tuberose, Tulbaghia, Zephyranthes, and others.

Amaryllis have long been favorites in Southern gardens and the new improved strains are so beautiful that every gardener should start a collection of them. The colorings of the Dutch, Sequoia and Houdyshel hybrids are exquisite—pink, rose, crimson, deep red, pure white and striped. In this climate, all amaryllis should be planted with the neck and upper portion of the bulb above the surface of the soil. If bulbs sink after a season or two, they may be carefully raised and reset on a handful of sand. Amaryllis may be planted in groups or clumps to themselves, or as single specimens in the border and among the shrubbery. They will bloom well in semi-shade.

Crinums are indispensable permanent plants because of their lovely fragrant flowers, long blooming season and attractive year-round foliage. The type known commonly as Milk-

and-Wine Lilies are persistent survivors from old gardens. Crinums have been greatly improved by the hybridizers and such choice varieties as the early blooming white Powelli, the St. Christopher, Ellen Bosanquet, Cecil Houdyshel, Rattrayi and the late blooming Giganteum (deep shade) provide a succession of bloom from spring through autumn.

Amarcrinum Howardi, an outstanding hybrid of Amaryllis Belladonna and Crinum Moorei, has especially lovely shell pink flowers which grow in clusters. It should be grown more generally as it thrives in this climate in semi-shade, and blooms periodically during the hot weather.

Tuberoses, Ismene (Peruvian Daffodil), and *Hymenocallis* (Spider Lily) are dependable old-fashioned summer blooming favorites, which bear fragrant white blossoms. The flowers of both the single and double tuberoses have a delightful wax-like texture. Ismene have exotic lily-shaped flowers, with segments that extend beyond the petals like small horns and are faintly veined with green. Hymenocallis take their common name from the spidery appearance of their narrow fragile petals and long stamens.

Clivia, Eucharis (Amazon Lily), and *Haemanthus* (Blood Lily) are tropical plants generally grown in pots or tubs, which may be placed in a shady garden or patio during the summer and in a sheltered location during the winter. They require much the same care and potting mixture of sandy loam, bonemeal and humus with some charcoal to insure good drainage. The decorative dark green foliage and large clusters of exquisite star-shaped white flowers, make the Eucharis a highly prized winter blooming plant. Clivia, with distinctive yellow-apricot blooms and large strap-like leaves, blooms in the spring. Haemanthus are summer and fall blooming having large, exotic red flowers and luxuriant foliage.

Lycoris have strap-shaped leaves and clusters of funnel-shaped flowers in many colors. Some plants bloom in summer, others in autumn, when the bulbs are devoid of foliage. In addition to the scarlet favorite (L. radiata) there are the lovely yellow (L. aurea), the lilac rose (L. squamigera), the red (L. sanguinea) and the blush pink (L. incarnata) varieties. Similar in culture and growth is the *Guernsey Lily* (Nerine sarniensis) which has coral red flowers and blooms in September before the foliage appears. Most of these bulbs naturalize well but they should not be disturbed unless absolutely necessary as they frequently fail to bloom for the season or two after being moved.

Zephyranthes, Cooperia (Rain Lily), and *Habranthus* are somewhat similar, having grass-like foliage and the habit of blooming on and off all summer. *Tulbaghia* violacea, dwarf, is an almost constant bloomer, having small orchid flower clusters. All of these are useful little bulbs to tuck into odd corners or to use as borders.

Other amaryllids, which provide a splash of brilliant color, are the showy *Alstroemeria* aurantiaca, (Peruvian Lily) with its orange and yellow azalea-like blossoms, the gorgeous red flowered *Sprekelia* (Jacobean Lily), and the fragrant yellow *Chlidanthus,* which resemble miniature amaryllis.

NARCISSI OR DAFFODILS

The terms Narcissus, Daffodil and Jonquil are confusing to many gardeners. All daffodils and jonquils are narcissi, for narcissus is the botanical name which includes all species and varieties of the genus. Daffodil is the name often applied to those narcissi which have large trumpets, but may also be used for all types. The name jonquil is commonly used for the rush-leaved Narcissus Jonquilla and its hybrids.

Narcissi are hardy, dependable and adaptable and cannot be surpassed for informal plantings. As winter in the South is comparable to spring in the North, the early varieties of Narcissi do much better than the mid-season or late ones. The choice of varieties which will bloom more than one season is limited but as they are one of the loveliest of all early spring flowers, and not too expensive, bulbs may be replaced seasonally. Some however will give more than one season's bloom and some will naturalize and multiply, especially the polyanthus or bunch-flowered N. Tazetta.

The new hybrids are larger, and in many cases, more beautiful than the older varieties which have been favorites of lasting value for many years. Discerning gardeners build up permanent collections of Narcissi by adding a few new varieties each year.

Some of the varieties recommended for this area, listed according to the classification generally followed, are:

TRUMPET NARCISSI
- Yellow:
  - Aerolite, early
  - Alasnam, early
  - February Gold, extra early
  - King Alfred, mid-season
- White:
  - Mount Hood, mid-season

LARGE-CUPPED NARCISSI
- Fortune, early
- Silver Star, early

SMALL-CUPPED NARCISSI
- Pomona, early

DOUBLE NARCISSI
- Texas, early
- Twink, early

TRIANDRUS NARCISSI
- Moonshine, mid-season
- Silver Chimes
- Thalia, early

CYCLAMINEOUS NARCISSI
- February Gold, extra early

JONQUILLA NARCISSI
- Campernelle, early
- Trevithian, mid-season

TAZETTA (Poetaz or Bunch-flowered) NARCISSI
- Chinese Sacred Lily
- Cragford (white petals, gold cup)
- Grand Monarque
- Paper White
- Queen of the North
- Soleil d'or

POETICUS (Poet's) NARCISSI
- Actaea, early
- Recurvus, early

There are many UNCLASSIFIED VARIETIES, which throughout the South, have become favorites: when first planted, these specimens were given various names to suit the fancy of the owner. Many have survived, each to become a part of the local garden heritage in which they are found.

Narcissi are not exacting as to soil but appreciate adequate drainage, surface fertilization after blooming and again in the fall, of bonemeal and superphosphate. *The foliage must be retained until dried.* When maximum growth and finest flowers are desired, dig and divide every 3 or 4 years, depending upon the rapidity of increase. After division, the smaller bulbs should be planted to themselves as they will not give much bloom for several years. However, those varieties that naturalize may remain undisturbed for years until the clumps become so thick that few flowers are produced.

Narcissi are excellent for cutting and last well. The flowers should be cut just as the buds begin to open, with very few leaves, as the foliage is necessary for the growth of the bulb. These first spring flowers with their beauty and fragrance are very welcome in the house for flower arrangements.

THE LILY FAMILY *(Liliaceae)*

The Lily family is largely noteworthy for the showy blooms of its numerous genera, including true lilies, Agapanthus, Allium, Camassia, Chionodoxa, Galtonia, Gloriosa, Hemerocallis, Hyacinth, Kniphofia, Lachenalia, Leucojum, Liriope, Milla, Muscari, Ornithogalum, Scilla and Tulip.

The term "Lily" is often used in conjunction with common names of many bulbous plants and is more descriptive than accurate. The number of *true lilies* which thrive in this climate, is somewhat limited but careful planning and planting will provide a succession of bloom in a wide range of color and variety. The *Creoles, Regal* and *Philippine lilies* are special favorites in this area as they are easily grown and naturalize readily. Other lilies, which have been raised with success are the *Speciosums, Croft, Estate, Tiger, Goldband* (Auratum), *Centifolium, Turk's-cap, Coral* (Tenuifolium), *Umbellatum, Madonna* (Candidum) and the *Bellingham* and *Green Mountain hybrids.*

Good drainage is the first essential in lily culture. A sandy loam with leafmold added suits most species. All lilies send out roots from the base of their bulbs but there are some that also develop roots *above* the bulbs on the stem. Some have fleshy, loose scales that hold water and easily decay unless they are planted on their sides in sand to overcome this difficulty. Although nearly all species of lilies are desirable for planting with other plants or among shrubs, they *should not be crowded.*

Companion plants are beneficial, as they absorb surplus water in the soil and shade the adjacent roots of the lilies. A mulch helps to keep the soil and stems cool and moist and obviates the necessity of cultivation and keeps the weeds down. The flowers of all lilies are excellent for cutting but only the top part of the stem should be cut off in order to allow the bulb to complete its growth. (For Lily Diseases, see Diseases and Pests, Page 126.)

Hemerocallis, or Daylilies, are unexcelled for colorful, long lasting bloom, ranging in color from dark bronzy red through the pastel tints of so-called pinks into clear orange and yellow. Daylilies thrive in full sun or partial shade, in average soil; and once established, they require practically no further care. However, they respond surprisingly well in continued and better bloom if watered liberally and fertilized. A careful selection of varieties will provide a succession of bloom from early spring until fall. New varieties are constantly being introduced. Some of the most interesting kinds are the Doctor Stout, Russell and Edna Spaulding hybrids.

Hyacinths, especially the Dutch and the Roman varieties in pink, blue and white, are adaptable to bedding and filling in with other spring bulbs. Singles are considered more desirable than doubles. Bulbs may be secured in bedding mixtures or in separate colors. Exhibition hyacinths are usually grown in hyacinth glasses indoors.

In this climate *Tulips* must be refrigerated (not frozen) from three to six weeks before planting. Bulbs are usually discarded at the end of the blooming season except Tulipa clusiana, a wild species, which may be left in the ground and will naturalize. The Breeder and Darwin types, which are noteworthy in size of flower, length and strength of stem, and beauty of coloring, do well in this area.

The so-called "harbingers of spring" bulbs are hardy, dependable, and are indispensable for brightening up spring gardens. *Muscari* (Grape Hyacinth), *Scilla* (Squill), *Leucojum* (Snowflake), *Ornithogalum* (Star of Bethlehem), *Chionodoxa* (Glory-of-the-Snow) and *Milla* are all ideal for these purposes. A light mulch should be used as a protection during the winter.

Kniphofia (Torch Lily or Red Hot Poker) and *Yucca* are generally used to add a touch of novelty and give bold accent to summer gardens. They do well in hot sun and require little water. Some hybrids of Kniphofia are smaller and have more beautiful coloring than the older types which were formerly listed as Tritomas.

There are a few summer blooming bulbs such as the white spiked *Galtonia* (Summer Hyacinths), *Allium, Liriope,* (Lily Turf), *Camassia* and the decorative flowered *Lachenalia* (Cape Cowslip).

Gloriosa, or Climbing Lily, is an unusual and spectacular plant with brilliant yellow and red flowers, having tendrils on the tips of its leaves. When planted in front of an evergreen hedge or trellis to give the necessary support to the plant while climbing, it reaches a height of 5 or 6 feet. The tuberous roots are easily grown like Irish potatoes. They should be watered freely during the growing season and fed generously with applications of liquid manure every two weeks until the buds begin to form.

IRIS FAMILY *(Iridaceae)*

The Iridaceae Family contains over 60 genera and perhaps 1000 species, generally described as herbs, with sword-shaped leaves, rhizomes or bulb-like rootstocks, and handsome, six-segmented flowers. Favorites in Southern gardens include: Iris, Blackberry Lily, Dietes, Gladiolus, Ixia, Marica, Montbretia, Sisyrinchium, Sparaxis, Tigridia, and Watsonia.

The genus *Iris* boasts one of the world's most famous flower forms. Different species of Iris hail from cold mountain regions, swamps and sea-coasts, and temperate plains. Some are impossible on the Gulf Coast, but others naturalize easily, and still more will flourish if their needs are met. Irises are divided into two main root classifications: bulbous and rhizomatous; and the important rhizomatous classification is in turn subdivided into: Bearded, Beardless, and Crested, according to their petal forms.

The bulbous group includes the Dutch, Algerian Iris tingitana and the small winter-blooming Iris reticulata. They are most effective in the garden when planted in clumps and may be interspersed with other spring bulbs. They are also excellent for cutting. Plant them three inches deep on a cushion of sand, under which there is bonemeal and phosphorus. Avoid planting them in a bed which requires summer watering, as they are subject to rotting.

The beautiful rainbow-hued Bearded Iris does not adapt easily to our scorching summers and mild wet winters. The determined iris fancier must attend carefully to basic requirements of location and culture but may be assured of success if he has also selected the new hybrids which are resistant to rhizome rot. Many Milliken and Tom Craig hybrids, as well as the old Sass iris, have bloomed and naturalized here. Varieties classified by northern growers as "too tender" are often right for us. In addition to proper selection, plenty of sun, good drainage, and soil on the alkaline side must be provided. Bearded iris cannot share beds with plants which need much summer watering, as their cycle demands that the rhizomes become dormant and somewhat dry in summer. Early autumn planting is preferred in raised beds of sandy loam which have been sweetened with lime or gypsum and enriched with bonemeal and superphosphate. Manure or commercial fertilizers may be turned deep into the bed where the feeder roots will reach but must never touch the rhizomes. Each rhizome, with its roots trailing, should be placed on a small mound and barely covered with soil. After blooming and in the fall, fertilize with bonemeal, either alone or in combination with an inorganic formula. Remember that too much nitrogen in any form produces fine foliage but few flowers. At the first sign of rot, or of growing tips melting away after a prolonged rainy spell, the rhizomes may be lifted and the soft parts cut off. Treat with sulphur or Clorox, full strength, or Terraclor before replanting. Or if you wish, on noticing the first mustard-seed-like particles of the fungus at ground level, douse the entire area with a mild solution of Terraclor or one teaspoon of potassium permanganate crystals. This treatment is also good for spurias or other iris which have contracted bacterial soft rot.

The Beardless types which may be grown in this area include the Japanese, Siberian, Spuria, Algerian Iris unguicularis, and the Louisiana natives and hybrids. The spectacular Japanese Iris kaempferi prefers very rich, lime-free soil and must be kept very wet before its early summer blooming and quite dry while dormant in autumn. They may be planted in redwood boxes or tubs, sunk in ponds for flowering, and then removed to a dry situation for their dormant season. The dainty Siberian Iris is an early bloomer which may adapt itself to southern gardens if given a rich soil and plenty of sun and moisture. They are most effective in clumps and do not like to be disturbed. Iris unguicularis, also called Iris stylosa, is valuable for its long period of winter bloom. The flowers, which have no real stems, should be gathered in bud and will open in water the next day.

Highly recommended are the stately Spuria Iris, which have handsome sword-like leaves and erect stalks crowned with six or eight blooms in spike formation. They are long-lived as cut flowers and hardy to wind, rain, heat, and cold. Plant only in the fall in sunny, well-drained beds, into which any balanced fertilizer or manure supplemented with bonemeal has been mixed. Set the rhizome on a mound of soil with fibrous roots spread beneath it. These fibrous roots must not be allowed to dry out during the purchasing and transplanting process. Barely cover the top of the rhizome with soil and add a little mulch to prevent sunburn. Fertilize in the early fall and again in the late winter. Spurias should not be moved often, so allow a three foot area for the mother rhizome to spread into a large clump. They like wet winters and dry summers but will tolerate more extremes than the Bearded varieties. Should fungus appear, treatment is the same as for Bearded Iris.

The slender swamp irises of Louisiana are the most indigenous of their family to our area. With a wonderful range of colors, the new hybrid varieties rival in beauty and grace the more difficult Japanese. They will adapt easily to most gardens here, whether sunny or semi-shaded. However, an ideal situation for them is a low bed or pond edge where they may occasionally have standing water in their winter growing season and dry out in summer. Barnyard manure and leafmold are preferred soil conditioners, but others may be used. The rhizomes should be barely covered with soil, and mulched quite heavily in the hot months, with any handy dressing. As with other irises, feed generously after blooming and in early autumn with well-rotted manure or a balanced fertilizer. Never put fertilizer directly on a rhizome but scratch lightly into the surrounding soil.

Last, but very useful in Houston gardens, are the Crested or Evansia Irises. They make good companion plants for azaleas, as they bloom about the same time and have the same acid soil and high shade preferences. Iris cristata is a miniature variety of Evansia with lovely little blue flowers. It prefers year-round moisture and soil with much humus, but will adapt to other conditions. Transplanting is best done immediately after flowering when new roots are produced. Another Evansia Iris which has been proved here is the widely-branched Japonica, which bears on a single stem numerous pale lavender flowers with orange crests. It succeeds better in considerable shade than in sunlight, and like Cristata, needs humus and leafmold. Two beautiful new hybrids are Nada, with frilled white flowers, and Darjeeling.

The following lists were chosen to give a wide color range of top-ranking irises which have already been naturalized in this vicinity. A few vigorous Bearded Iris have been developed which will give both spring and autumn bloom if continuously fertilized and kept moist all summer. These are called "rebloomers" (RE) or "semi-rebloomers" (SR).

BEARDED IRIS FOR HOUSTON

Orchid and Flame (SR)—Tall lavender, tangerine beard
Sousun (RE)—Cream and yellow
Eleanor Roosevelt (RE)—Dark purple
Lady Mohr—Oyster with chartreuse falls
Carabella (SR)—Peach pink
Rocket—Tall, two-tone orange yellow
Russian Bronze (Winter-RE)—Bronze with maroon falls
Purissima—Famous blue-white
Sultan's Robe (SR)—Old rose, copper, and blue
Tournament Queen (Winter-RE)—Cerise pink, very large
Wm. Setchell—Giant, deep blue-purple
Blue River (RE)—True blue, vigorous
Arcadia Buttercup—Sunny yellow
Montecito—Tall, pure yellow

LOUISIANA HYBRIDS

Her Highness (Levingston)—Show-winning white, large and vigorous
Dixie Deb (Chowning)—Large, clear sulphur yellow, vigorous, early
Bayou Sunset (MacMillan)—Soft rose with gold crest, seven-inch flowers
Haile Selassie (MacMillan)—Red violet, beautiful and vigorous
Peggy Mac (MacMillan)—Magneta rose, long-time favorite
Cherry Bounce (Nelson)—Bright, lustrous cherry red, fine substance
Wheelhorse (Dormon)—Huge rose bitone, consistent show winner
Louise Arny (Arny)—Pale blue to lavender with yellow crest, ruffled
Mistis (MacMillan)—Award-winning, large lavender pink
Blue-Chip (Smith)—Six-inch flowers of hyacinth blue
Creole Can-can (Granger)—Large, double, blue flowers on vigorous plant
Wood Violet (Dormon)—Low-growing, intense blue violet, yellow crest
Royal Gem (Smith)—Award-winning velvety purple, yellow signal patch
The Khan (Dormon)—Award-winning black violet, seven-inch flowers
Barabara Elaine Taylor (Taylor)—Six-inch white flowers

SPURIA HYBRIDS

White Heron (Milliken)—Large white with yellow
Wadi Zem Zem (Milliken)—Huge creamy yellow
Sunny Day (Sass)—Glowing yellow
Azure Dawn (Nies)—Pale blue and lavender
Bronzspur (Nies)—Bronze, brown and yellow
Royal Toga (Nesmith)—Violet and white
Blackpoint (Nies)—Solid dark brown
Morningtide (Walker)—Blue-white

BULBOUS IRIS

Wedgewood—Early blue
Imperator—Late, rich blue
Golden Harvest—Yellow
White Superior—Fine white

Gladiolus, another major member of the Iridaceae family, is now available in a glorious range of colors, although with little variation in form. They are easy to grow in good garden soil and will provide a succession of bloom if planted at two-week intervals in the spring and late summer. Gladioli give most satisfactory results in garden display and for cutting when selected color blends are planted, rather than packaged mixtures which are usually disappointing and often inferior. For maximum bloom, gladioli should be fed with a liquid fertilizer once a week from the time the stalk begins to lengthen until the first color shows. This is particularly important when growing flowers for exhibition. Flower spikes should be cut when the two lowest florets open, and not more than one leaf should be cut from each plant. Thrips, gladiolus' worst pest, is easily controlled if a recommended soil and bulb dust or spray is applied at weekly intervals from the time foliage is six inches high to flowering. Some gardeners let bulbs stay in the ground, but flowering diminishes each year. Bulbs may be lifted after foliage has dried and stored during the winter. Before storage, remove old foliage and treat corms with an insecticide. The *Primulinus* type and the hybrids known as *Gladiolus tristis* and the dainty *Baby Gladiolus* are smaller, more graceful plants now popularly grown here.

The *South African Dietes,* though not a true iris, has iris-like foliage and blooms on and off all summer. Each flower lasts only a day but is rapidly followed by another. The *Oakhurst* and *Johnsoni* hybrids are particularly adaptable to this climate. *Marica,* or the so-called "Walking Iris," naturalizes easily, as the weight of young plants formed on the ends of old flower stalks pull the old stems down and take root.

Montbretias and *Watsonias* make a brilliant colorful and decorative display in summer gardens and are desirable acquisitions for the border or for cutting. They are of easy culture, resembling in most particulars the culture of gladiolus, but may be left undisturbed for several years. The Earlham hybrids of Montbretias are very lovely and excellent for cutting. These bulbs may be left in the ground but will be improved by lifting, separating, and replanting every alternate autumn.

The *Blackberry Lily,* or Belamcanda, is adaptable to any soil, thriving in full sun or semi-shade. The yellow flowers brighten summer gardens and keep well when cut. The seed formation, which resembles a blackberry, may be dried and used for winter arrangements.

Ixia and *Sparaxis,* both originating in South Africa, are similar small, star-shaped flowers borne on long slender stems above grass-like foliage. Lovely for cutting, the colors run the gamut of the golden tones from cream to scarlet.

Tigridias (Shell Flowers) thrive in Southern gardens because of their ability to withstand intense heat. Natives of Mexico, the large, triangular-shaped flowers are brilliantly colored and have a long blooming season. The smallest member of the Iris family is the *Sisyrinchium* or Blue-eyed Grass. The small, dainty blossoms open one at a time, keeping up a long succession of bloom.

ARUM FAMILY *(Araceae)*

Callas do best in southern exposures, in a light soil to which *well-rotted* manure, sand and humus have been added. If desired, the roots may be started early indoors in pots and later transferred to the garden when all danger of frost is past. After blooming, when the foliage has dried, the roots should be dug and stored in dry sand or peatmoss to give them a few months rest. The *hardy white Callas* may be left in the ground for the summer, in order to increase, but they too will benefit by digging in the fall. The *yellow variety, Elliotiana,* with its interesting spotted foliage, is less hardy and requires semi-shade and a slightly acid soil. The *Evergreen Baby Calla,* a shade-loving variety, and the *Pink Calla,* usually grown in pots, are becoming increasingly popular. *Rot,* which sometimes occurs in callas, is generally caused by using *green manure* and high soil *p*H.

Anthuriums are highly prized as pot plants for their beautiful exotic flowers. A. scherzerianum (Flamingo Flower) and Spathiphyllum clevelandi (commonly called White Anthurium) will bloom in high garden shade or in the house. The shade and moisture-loving *Arisaema* triphyllum (Jack-in-the-Pulpit), with its calla-like flowers of mottled green and brown, is most effective when planted among ferns or wild flowers.

Caladiums, related to Callas, are highly esteemed as bedding plants for their ornamental veined and marbled foliage and brilliant coloring. They like a well-drained friable, somewhat acid soil and semi-shade and may be used among azalea plantings to provide color during the summer. Tubers may be planted as soon as danger of frost is past. Caladium leaves die back naturally in the fall, when the roots should be dug, dusted with sulphur, and stored in dry sand.

GINGER FAMILY (Zingiberaceae)

Several varieties of the tropical Ginger family are grown successfully in this area. *Butterfly Lilies (Hedychium coronarium)* bloom in summer and are prized for their pure white fragrant flowers which resemble large butterflies. *Ginger Lilies* (H. gardnerianum), a more tender variety, have yellow flowers tipped with scarlet and bright green canna-like foliage. After blooming each hedychium stalk should be cut off near the ground to promote new growth. *Pink Shell Ginger* (Alpinia speciosa or nutans) has handsome clusters of pink buds opening into striped yellowish flowers. *Hidden Ginger* (Curcuma petiolata) flowers in a compact spike of pink, yellow and lavender bracts.

CANNA FAMILY (Cannaceae)

There are many beautiful hybrids of *Cannas*. The two main groups are the orchid-flowered type and the more popular gladiolus-flowered type which is of dwarf habit and free blooming. Cannas may be selected according to color and are most effective when planted as bold accents in borders or in large masses. Grand Opera varieties include colors of old rose, salmon, peach-pink, yellowish-pink and canary yellow. The bronze-leaved varieties are especially desirable for their foliage as well as for their flowers.

DAHLIAS

Dahlias may be grown successfully in any well-drained soil, but a good garden loam rich in humus is best. They should have an open sunny situation with free circulation of air at all times. The tuberous roots should be planted horizontally with the sprout pointing upwards and need to be staked at planting time to give support to the plants as they grow. Cultivation should be shallow in order to avoid damaging the root system. When plants are about a foot high, the top should be pinched out to develop a more sturdy and branching plant. Tall dahlias benefit from disbudding, leaving only the largest and best bud on each branch. The smaller varieties need no disbudding, may be planted closer together, and are more adaptable in landscaping than the larger varieties. These are by far the most satisfactory for the Gulf Coast area. They come in a wide range of colors and provide a lavish supply of blossoms, which are long lasting if cut in early morning or late afternoon and immediately immersed in water of sufficient depth to cover most of the stems. The plants should be fed as soon as the flower buds form, using a small amount of balanced commercial fertilizer, lightly worked into the soil but not within several inches of the stem. Feedings may be repeated every ten days during the blooming season. The soil should be watered well after planting; but during early growth, watering should be just sufficient to keep the plants growing well. After feeding begins, plants require more water. A light mulch of leaves or dried grass cuttings will conserve moisture, keep the roots cool, and dispense with cultivation.

MISCELLANEOUS BULBS

Gloxinias may be grown as pot plants. The gorgeous flowers and velvety foliage of the California grown hybrids are preferable to the Belgian types. *Achimenes,* related to Gloxinias and somewhat similar, may also be grown in pots. The plants bloom profusely and may be planted to provide a long succession of bloom.

Ranunculus and *Anemones* are among the gayest and most brilliantly colored of the spring flowers. They require much the same culture, are ideal for cutting purposes, and are well adapted to this climate. The large double flowered ranunculus range in color from red, pink, yellow to white. Anemones which do well here are the single De Caen and the semi-double St. Brigid types in shades of red, pink, blue, and white.

Oxalis are hardy dwarf growing or trailing border plants with an abundance of small buttercup-like flowers and shamrock leaves. The newer strains have more compact growth with flowers held high above the foliage. Bermuda Buttercup (O. cernua) thrives here and makes a good ground cover.

Waterlilies bloom in this area from May until frost. They may be grown in tubs or in pools, but to bloom *freely* they must have full sun. When planted in submerged boxes, the soil should be very rich containing a generous amount of manure or bonemeal, and should be renewed every second year. Lilies growing in a natural pool may be fertilized by broadcasting bonemeal on the water surface in March. Roots should be divided in April while the plants are dormant. The roots will not freeze in this climate if they are *covered* with a foot of water. Varieties which are successful here are the Blue Beauty, the Pink Houston Lily, the white yellow-centered Georgia Prince, and the Pink Zanzabar. Lavender *Water-Hyacinths* and Yellow *Waterpoppies* add interest and color to pools. For large pools or small lakes the native *Chinquapin* is ideal, as it has huge pale yellow lotus-like flowers.

POT-GROWN BULBS

Most bulbs may be grown successfully in pots. Many gardeners prefer pot culture, even for hardy bulbs, because potted plants may be conveniently moved around the house, porches, terraces and in the garden, and are easily protected from sudden drops of temperature. Pots and other containers are used for year-round growing as well as for *forcing*, which means grown out of the normal season for flowering.

There are *three methods* commonly used for growing bulbs in pots—the *first* and easiest is using fiber, pebbles or water as the growing medium. Paperwhite Narcissus, Lilies-of-the-Valley, Ismene and others are grown in this manner. When first planted, the bulbs should be kept in a *dark cool* place until the root system is developed. Moisten fiber thoroughly before placing bulbs in it, then drain off excess water. The bulbs must be firmly placed with fiber closely packed around them. Never permit fiber to become *dry*. When growing bulbs in water and pebbles, keep the *level* of water just *below* the bases of the bulbs. Bulbs grown by this method exhaust themselves in one season and should be discarded after blooming.

The *second* method, generally used for hardy bulbs such as Ixia and Sparaxis, is that of forcing in soil with *preliminary root growth*. While some bulbs require special soil formulas, a light rich well-drained soil of an equal mixture of loam, sand and leafmold answers for the majority. Two tablespoonfuls of bonemeal may be added to each 8-inch pot for nourishment. The potted bulbs should be stored outside in a cold place and covered with leaves and peat moss for six or seven weeks. Clay pots should be watered well before storing. Slightly dampened sawdust may be used if pots are stored under cover. Bulbs which are grown carefully in this manner may usually be saved for another season's bloom. Bulbs should be ripened properly after flowering, by lessening water gradually until leaves turn brown. Leave in pots until fall then plant in the garden.

The *third* method, generally used for such tender bulbs as Eucharis and Anthurium, is planting in a sufficiently enriched soil in which the bulbs can make normal growth and development without relying upon the food supply stored within the bulb itself. Many bulbs grown by this method will not need to be replanted each year, only once in two to four years.

Garden Flowers

Customs and manners may differ, but the love of flowers is common to all peoples.
—Old Oriental Proverb

Botanically, all garden flowers are classified as Annuals, Biennials, or Perennials. The gardener's choice of flowering plants depends largely upon the purpose the plants must fill, the space available and the time which can be devoted to their care.

ANNUALS

Annuals are flowers which complete their life cycle from seed to blooming plant and back to seed again in a single season. Southern gardeners find many uses for annuals because of their quick growth, ease of culture, abundant flowering and value as cut flowers. There are three classes of annuals, *hardy, half-hardy* and *tender*. The hardy types are reasonably frost resistant and seeds may be safely sown in the open ground in the fall or early spring. If severe weather causes losses to fall-sown seeds there is still an opportunity to sow again in the spring so that the plants will be large enough to withstand the heat when summer comes. Half-hardy annuals are susceptible to frost and are usually started in a cold frame. Tender annuals are easily injured by frost and are usually raised in cold frames or small plants are secured from nurserymen. They should not be planted in the open ground until the soil has warmed up.

Seeds of the early spring annuals may be scattered over newly planted bulbs for bloom when the bulb foliage is dying down. Shallow rooted poppies, petunias, candytuft and phlox drummondi may be used in this way and will not injure the bulbs. In this cilmate many annuals establish themselves and reproduce abundantly from their own seed year after year. A few plants which reseed themselves easily are:

Ageratum, Alyssum, Arctotis, Bluebonnets, Browallia, Calliopsis, Cornflower, Cosmos, Feverfew, Gaillardia, Johnny-jump-up, Large-flowered Candytuft, Larkspur, Marigold, Poppies, Portulaca, Torenia, Queen Ann's-lace, Vinca and Violets.

Although dependable old favorites are grown year after year, there are many new varieties which are adaptable to this climate and should be tried.

BIENNIALS

The name *Biennial* means two years continuance and is applied to plants which make part of their growth one year, bloom the following year and die. However, the climate and time of seed sowing determine the longevity of biennials. In this area, the plants are temperamental in behavior and frequently complete their growth and die in one season, while others linger for a few years as perennials. It is not uncommon for biennials to reproduce from self-sown seeds and for seedlings to grow up under the shelter of the parent plant. There are few true biennials grown in the South, mainly *Texas Bluebells* and some of the *Pinks*.

PERENNIALS

Any plant that lives more than two years is classified as a *Perennial*. Herbaceous perennials die down to the ground in the winter and come up each spring from the same roots. Hardiness in perennials means the ability to live through the winter and to withstand long hot summers and high humidity. The majority of perennials are not grown in the South with success comparable to the North, largely because they require a definite, well-defined dormant period of cold weather. However, there are a number of tried and true perennials which have become permanent mainstays of Southern gardens.

Perennials are easily propagated. Many of them bloom from seed the first year and they may be multiplied by cuttings and divisions. Some of those forming clumps to be divided are:

Blue Salvia, Chrysanthemum, Coreopsis, Dusty Miller, Forget-me-not, Gerbera, Golden Glow, Louisiana Phlox, Michaelmas Daisies, Mistflower, Perennial Phlox, Pinks, Shasta Daisies, Shrimp Plant, Verbena and Violets. (See Propagation, Page 114.)

Many species of bulbous plants are really herbaceous perennials, such as Dahlias, Hedychium, Hemerocallis, Iris, Lilies, Montbretias and Narcissus. (See Bulbs, Page 86.)

Mention is made of a few perennials which are adaptable to this climate when given reasonable care:

Chrysanthemums are the most important fall-blooming perennials in Southern gardens. The plants are heavy feeders and benefit from applications of 4-12-4 commercial fertilizer or liquid manure, given every two or three weeks until the buds show color. They must be watered thoroughly after each feeding. For maximum development, chrysanthemums need good garden loam, adequate drainage, full sun, light cultivation, and occasional fungicide-insecticide spraying. After the blooming season is over, all stalks should be cut to the ground and mulched for winter protection. The plants may be propagated by division or cuttings during April and May. Chrysanthemums should be divided each year in the spring. When young plants are 8 or 10 inches tall, the center should be pinched out in order to develop more compact plants. When specimen blooms are desired, the large-flowered varieties should have all but the strongest buds removed in order to produce fine single blossoms. The familiar pompon, the shaggy, and daisy chrysanthemums may be varied with the more unusual spider, spoon, and thread-like types. These are just as easily grown and come in a wide range of lovely colors and varieties.

Gerbera are valuable because their blooming season is exceptionally long. They require almost full sun and withstand long hot summers and are frost resistant. They may be raised from seed, but most gardeners in this area prefer to purchase one or two year old plants. The crowns should be set level with the soil—never covered. Soil preparation should be at least 12 inches deep, as this is a deep-rooted plant. The soil should be rich in food and organic matter. An application of 5-10-5 fertilizer should be worked into the soil before planting. Gerbera need frequent feeding and should be kept well watered during dry spells. Mildew should be controlled immediately with dusting sulphur. Gerbera have a wide range of colors from white through all the shades of pink, rose, orange, and carmine. Both the single and double types are excellent for cutting.

Perennial Phlox (P. paniculata) is outstanding in coloring which ranges from pure white through shades of pink, lavender and purple to red. The plants may be kept blooming over a long period if the large flower trusses are kept cut off as soon as they drop their flowers and new shoots will appear and furnish an extra crop of bloom. The plants prefer sun and benefit by generous fertilization of *well-rotted* manure. To avoid mildew, they should not be watered overhead late in the day.

Color in the Garden

Flowers that their gay wardrobe wear.—Milton

The use of color is an integral part of garden design. The practice of good color arrangement with the intention of producing pictorial effect, whether by means of harmony or contrast, is full of delightful potentialities. When in doubt about using color, it is better to err on the side of boldness rather than timidity. However, mistakes in color harmony or contrast *need not be permanent,* as any plant can be moved, even when it is in full bloom, provided adequate soil is taken with it.

In relation to gardening the color of the house is as important as the architecture and must be just as carefully considered in order that the planting will harmonize or pleasingly contrast with the exterior walls. Many different colors in unlimited combinations look well with *white* or *neutral toned* houses. When planting the grounds surrounding *red* brick houses, white flowers may be used in abundance, but red flowers of different tones, vivid oranges, pinks, magentas and strong lavenders are discordant. Especially important is the separation of Azaleas of conflicting colors. The *orange-red* brick house (a difficult problem), may be pleasingly planted with harmonizing flowering shrubs and plants in shades of orange to yellow such as Pyracantha, Daylilies, etc. When gardens are small and exposed to the street, the color schemes of adjacent neighborhood gardens and houses should be taken into consideration.

One of the simplest methods of developing the color scheme of a garden is to use a single color, featuring shades of one color in all plant material—flowering trees, shrubs, vines, bulbs, perennials and annuals. (See Color Chart, pages 9-41.) A one-color scheme is particularly desirable for the very small garden, or one that is seen from all angles. Of this type, all-white gardens are the most popular in the South. These also lend themselves most effectively to night lighting, with highly dramatic results. In well planned gardens the structural design of green foliage carries the interest through the seasons of sparse bloom.

When green alone is used as a color scheme, the diversity in shade and texture of the leaves becomes more important and of greater interest than when the plants appear merely as a background for flowers. An all-green garden is restful and cool looking, even under a blazing sun. Garden ornaments of all types are at their best in such gardens. There are two main advantages in an all-green garden: it may be located in an exposure unfavorable to blooming plants and it does not have the maintenance problem of providing continuous bloom.

When the owner prefers *more color* than the white or green garden affords, a monotone with accents of deeper color can be used successfully. The pink garden accented by red is very pleasing; the salmon pink with turquoise blue is good, though hard to achieve; shades of yellow, orange and flame make a brilliant and exciting garden. The use of magenta or purple-toned colors in plants, such as Formosa Azaleas, Redbud, or Magnolia soulangeana, with blue or blue-pink, found in Pansies and Louisiana Phlox, is a popular early spring combination. An old-fashioned garden with mixed colors also has charm, particularly in a sunny location.

The choice of color depends upon several basic facts: the color of the house on the outside, the predominating color of the interior from which the garden is viewed, the purpose for which the garden is designed, (whether for cutting flowers, for a picture, or for an easily maintained living area), and the personality of the owner. The long blooming season of the Gulf Coast area provides the gardener with the opportunity for changes of color schemes with the varying seasons of the year.

The Shaded Garden

To sit in the shade on a fine day and look upon verdure is the most perfect refreshment.

—Jane Austen

The success of shady gardening lies in a suitable treatment of the soil and the careful choice of plant material which is adapted to shady situations. Gardeners are prone to consider a shady garden as a liability instead of providing certain necessary conditions and making shade an asset.

SOIL

Many shade problems disappear when soil conditions are improved. *Good drainage* and a *friable humus soil* of some degree of acidity are essential. If the soil dries out too quickly *or* too slowly, humus should be added generously in the form of peat moss, compost or leafmold. A top dressing of humus may also be added in the spring and the fall if needed. A mulch is important to keep the ground moist and reduce cultivation to a minimum. Shaded gardens require less fertilizer than sunny ones. *Bonemeal* is the best food to use in shady locations except for acid loving plants. Organic manures should be avoided, but if the soil appears sour, a small amount of lime may be used.

DENSE SHADE

In locations where there is no *direct sunlight,* the best chance of success will be found in the use of hardy ferns, ornamental leaved plants such as Caladium, and ground covers. (See Ground Covers, page 64.) When shade is cast by adjacent buildings the problem of planting is comparatively easy. Few flowering plants bloom in dense shade but many plants grow reasonably well and their foliage is attractive at all seasons. Very heavy tree shade may be modified by thinning branches or by the removal of lower limbs. The failure of some plants may be attributed to tree root interference, and herbaceous plants growing under trees often do not live because the soil is too depleted, not because the shade is too

deep. Annual root pruning along border of bed will discourage small fiber roots. When it is necessary to plant in root-filled soil under trees, a top dressing of good loam must be provided from time to time and watering must be done regularly as the greedy roots rob the soil of fertility and moisture. Many of the early spring-blooming bulbs do well under deciduous trees if there is sun at least during their blooming period.

PARTIAL SHADE

Filtered sunlight through tree branches is highly desirable in the South for many flowering plants, bulbs, vines and some roses. Many shrubs and trees thrive in partial shade, such as Ardisia, Azaleas, Camellias, Calycanthus, Dogwood, Euonymus, Fatsia, Fatshedera, Holly, Hydrangea, Magnolia, Pyracantha, Redbud and Skimmia. Some of the herbaceous perennials grow best in partial shade because of the slower water evaporation from the leaves. A shady garden need not be without color, but flowers of light tones, white, cream, lemon yellow and other pastel tints are considered best for shade, as they reflect subdued light more than deeper colors. California gardeners provide a mass of color in their shady gardens by using large numbers of potted plants, which may be replaced when they finish blooming. St. Augustine grass grows well in partial shade and makes a permanent bright green carpet. Also see Tropical Garden, page 104.

PLANTS SUITABLE FOR SHADY GARDENS

Although almost all flowering plants bloom best in sunny locations, the following have been found to give a satisfactory amount of blossoms in partial shade.

- Abelia
- Ageratum
- Ajuga
- Almond, Flowering
- Althea
- Alyssum, Sweet
- Ardisia
- Azalea
- Balsam, Sultan
- Begonia, in variety
- Browallia
- Bulbs,
    - Agapanthus
    - Amaryllis
    - Anemone
    - Butterfly Lily
    - Caladium
    - Calla
    - Canna
    - Crinum
    - Hemerocallis
    - Hosta
    - Iris, in variety
    - Lilies, in variety
    - Liriope
    - Lycoris
    - Montbretia
    - Narcissus, in variety
    - Oxalis
    - Roman Hyacinth
    - Scilla
    - Zephyranthes
- Butterflyflower
- Camellia
- Candytuft
- Canterbury Bell
- Chinese Forget-me-not
- Clematis paniculata
- Coral Vine
- Cotoneaster
- Deutzia
- Forget-me-not
- Godetia
- Hypericum
- Hydrangea
- Kerria
- Michaelmas Daisy
- Pentas
- Petunia
- Phlox, Perennial
- Pittosporum
- Platycodon
- Plumbago
- Pomegranate
- Mahonia
- Nandina
- Nicotiana
- Scabiosa
- Shrimp Plant
- Strawberry Begonia
- Torenia
- Viburnum
- Vinca major
- Violet

The Fragrant Garden

All the perfumes of the vanished day
Rise from the earth still moistened with the dew.
—Bellinghausen

After design and color, fragrance is the garden's most delightful asset and any garden possesses greater charm if fragrance is one of its attributes. Fragrance in plants, shrubs and trees varies considerably with atmospheric moisture and is more prevalent in a warm, moist and fairly still air. Flower scents are more noticeable after a shower while a few days of very hot, dry weather will take the fragrance out of most flowers. Blooms which are fragrant in the garden often lose their scent when cut and placed in the house, while the fragrance of others is at its best in a warm room, especially when the buds open indoors. For this reason, the scent of florist's flowers is often more compatible to indoor atmosphere than that of garden grown blooms. Some flowers are fragrant only in full sunshine while the sweetness of many others is greatly increased with the coming of dusk and these should be planted in masses along paths and beside terraces and porches where they may be enjoyed during the evening hours.

The essential function of fragrance is to attract insects for fertilization. Such flowers as Jasmine, Honeysuckle and Narcissus, which are habitually fertilized by moths and butterflies, are always sweet scented. Experiments have shown that bees have a keen appreciation of fragrance while humming-birds have no sense of smell and the flowers fertilized by them are usually bright colored and odorless. The percentage of fragrant species is highest among white and pastel tinted flowers, next among red flowers followed by yellow and purple, while very few true blue flowers have any scent at all. The fragrance of flowers is produced from the petals and the most heavily scented blooms are double or have thick waxy petals such as Butterfly Lilies, Sweet Olive, Loquat, Pittosporum, Cape Jasmine, Hyacinths and Tuberoses.

Plants that are related botanically have a similarity in their odors but the scent of related species is seldom identical. Fragrance in roses varies during the different stages of development and some roses are sweet-scented only when half open while others are at their best when the flowers are full blown. Many modern hybridized roses, particularly the yellow and two-toned varieties, lack the delightful scents that one finds in old roses. Likewise, hybridizers have improved the color, form and size of most garden flowers but it is a lamentable fact that many of the newer varieties of flowers are without scent.

In older times it was the custom to grow plants for their various *leaf* fragrance—some aromatic, some spicy and pungent. Many plants known as foliage plants give forth their best fragrance when the leaves are bruised or touched, such as Geranium, Mint, Lemon-verbena, Lavender, Rosemary and True Myrtle. Some fragrant leaves give out their scent spontaneously either after a shower or under the hot sun. Leaf odors are usually more permanent than flower scents as the leaves contain substances which do not occur in flowers.

The Tropical Garden

And there were gardens bright with sinuous rills,
Where blossomed many an incense-bearing tree.
—Coleridge

The most dramatic innovation in Houston gardens involves the use of tropical and semi-tropical plant materials in landscaping. Current trends in architecture as well as in living seem to demand these luxuriant evergreen foliage plants. The austere lines of the contemporary house, the simple lines of a Texas ranch house, as well as the romantically arched façade of Spanish dwellings, are enhanced by properly chosen semi-tropical shrubs. The focal points of outdoor life, patios, terraces, and swimming pools, along with views from glazed areas, may be effectively decorated with choice specimens in tubs or planter boxes. Great flexibility may be achieved by the shifting of plants in bloom, using seasonal flowering pots, such as poinsettias at Christmas, or ixoras in spring, for color and variety. The increased popularity of outdoor lighting, both direct and diffused moonlight effects, has made the "living" garden as important by night as by day. Even restricted city houses or apartments may now enjoy the symbol of a garden in a small paved or gravelled area highlighted with a few handsome tropical plants.

The exotic shrubs and trees, classified according to usage in the following selection, have actually been grown out-of-doors in this area over a period of years and may be obtained from local nurseries. They are delightful forerunners of a whole new world of gardens for us.

SHRUBS FOR BACKGROUND

ARALIA PAPYRIFERA—Tetrapanax papyriferus (Rice-Paper Plant)

A tall-growing tropical plant with large palmate leaves. Large, showy, cream-colored flower spikes in autumn. Will grow 6′-10′ tall. Ideal for tropical effects on patios or for background. If frozen or frost damaged, will come out again in spring. Does well in any good soil.

ARALIA SEIBOLDI—Fatsia Japonica

Native of Southern Asia. Grows more slowly than Aralia papyrifera. A finer quality. Will remain green through winter and will remain undamaged down to 15°. Leaves are also palmate. Blooms in heads of white flowers that later turn to black berries. Very decorative in pots on terraces and patios. Needs shade and must have well-drained location. Any good soil.

CARICA PAPAYA—Papaya

Tropical bush-like tree. Very dramatic foliage bearing exotic cream-colored blooms. Fast growing and will come out from trunk close to ground if frozen back. Fruit ripens in the fall and is considered a delicacy.

CARISSA GRANDIFLORA—Natalplum Carissa

Evergreen from South Africa. Much branched and spiny. Fragrant, large pure white, star-shaped flowers followed by plum-like, red fruit. Tolerant of pruning. Must also have sandy, well-drained soil. Plant in protected area in sun.

CITHAREXYLUM BERLANDIERI—Fiddlewood

Interesting shrub with black, green, and red berries, all in one cluster. Foliage has bronze cast. Likes fibrous loam, well-drained, and should grow from 4′-6′ tall.

CLEYERA JAPONICA

Evergreen allied to the Camellia family. Thrives under same conditions. Growth medium high and may be pruned tree-like if desired. New growth colorful in shades of bronze and red tones. Very good for background or accent planting. Hardy and does well in good loam that is slightly acid.

COCCULUS LAURIFOLIUS—Laurelleaf Snailseed

Asiatic. Woody plant usually vine-like in growth habit but can be pruned for desired shape. Excellent for walls. Leaves dark green, glossy, and similar to lemon leaves. Good loam on the moist side. Grows 4′-6′. Does well in full sun or deep shade.

DRACAENA DRACO—Dragon's blood dracaena

Name attributed to blood red sap of mature tree. A grey-leaved dracaena of symmetrical growth 3′-4′ in diameter; this plant survived blizzard of '51 with temperature approaching 15°.

ERIOBOTRYA JAPONICA, var. bronze—Loquat

Asiatic. Beautiful, bushy, small shrub. Ideal for small gardens or patio walls. Sun or semi-shade. Will take the cold with little or no damage. Grows 5′-6′ in height. Likes well-drained loam. Excellent in pots for winter plants.

LEUCOTHOE CATESBAEI—Drooping Leucothoe

One of the most beautiful of broad-leafed evergreens. Grows up to 5′ with arching branches of large shining leaves, showing bronze autumn color on new growth. The nodding white flowers are borne in clusters along stem and resemble

Lilies-of-the-valley. Plant in protected place. Does well in moist sandy loam. Will not tolerate winter drying.

MAGNOLIA FUSCATA—Michelia fuscata—Banana Shrub

One of the finest of specimen plants. Flowers are creamy yellow edged with red. It is slow growing and fine for shade. Can be grown in sun. Well-drained sandy soil. Will tolerate cold. The blooms have a banana-like perfume.

MAHONIA FORTUNEI—Chinese Mahonia

Evergreen, with erect, woody, bamboo-like stems that have rosettes of long pinnate leaves. Clusters of yellow flowers followed by blue berries. Very good for shady north exposure. Sandy well-drained loam. Grows 3′-4′ high.

PIERIS JAPONICA—Japanese Pieris

A fast-growing evergreen. Very handsome in form with lustrous leaves delicately tinted when young. A beautiful shrub in bloom with upright panicles of white flowers. It thrives best in sheltered positions in a rather sandy loam with peat or leaf mold. Growth up to 6′. Must have good drainage.

SARCOCOCCA HUMILIS

Not particular as to soil, but requires good drainage and tolerates the shade and drip of trees. Its glossy green leaves are its chief attraction. Blooms in clusters of small white flowers from April until June. Grows 3′-5 in height.

SCHINUS TEREBINTHIFOLIA—Brazil Peppertree

A bushy tree 5′-15′ high. Will freeze if unprotected, but will come back more shrub-like. Very striking when planted in shrub borders. Any good quality soil. Does best in full sun.

SMALLER SHRUBS FOR FOREGROUND PLANTING AND ACCENT POINTS

ACALYPHIA WILKESIANA—Painted Copperleaf

Valued for ornamental foliage and showy bracts. Will grow 3′-5′ high. Needs sun to produce vivid color of leaves, which are variegated in shades of copper, bronze, red and purple. Any good soil.

ACANTHUS MOLLIS—Bear's-breech

Perennial thistle-like shrub of the old world whose decorative leaves provide the pattern for the capitols of the Corinthian columns. It is semihardy and does best in full sun in rich well-drained soils. Grows to 2′ feet tall with large spineless leaves. Plant for winter protection.

AUCUBA JAPONICA, nana—Japanese Aucuba

Asiatic. 18″-2′ high. A hardy, dwarf evergreen with waxy, dark green leaves. Clusters of bright red berries form in fall and winter. Male plant should be planted with the female to produce berries. Fine for shady places. Needs moist, humus soil with good drainage.

AUCUBA JAPONICA, var. golddust—Golddust Plant

3′-5′ in growth. Similar to above, but leaves are larger and longer and beautifully speckled with golden yellow spots. Cultivate as above.

CARISSA GRANDIFLORA, dwarf—Carissa Boxwood Beauty

Compact upright growth. Very fine foliage that will tolerate pruning. For use as small hedge or foreground. White star-like flower, followed by red fruit.

CLEOME SPINOSA—Spiny Spiderflower

Small annual shrub of the tropics with white, green, yellow or purple flowers, whose feathery petals and long stamens give them the appearance of orchids. Grows to about 3′. Sandy loam in semi-shade or sun.

HEDERA CANARIENSIS—Algerian Ivy

Hardy to 17°. Leaves grow 5″-8″ wide. Lobes more widely spaced than English Ivy. Needs moisture and semi-shade. Very good for walls or ground cover when used with tropical foliage plants.

IXORA COCCINEA—Jungleflame Ixora

Tropical evergreen. One of the most handsome of woody plants with bushy growth. Not difficult to grow. Plant in fibrous loam with peat and sharp sand. Prune after flowering to keep desired shape. Light shade. Flowers range in color from I. acuminata, white; I. chinesis, red to orange; and I. fulgens, scarlet.

JACOBINIA CARNEA—Jacobinia

Tropical American shrubby plant belonging to the Acanthus family. Not difficult to grow and blooms in this section most of the year if protected and in sunny location. Thrives in good loamy soil. J. carnea has dense terminal heads of rosy pink flowers. Most satisfactory for color. Grows 2′-3′ high.

RAPHIOLEPIS INDICA—Indian Hawthorn

Evergreen native to China. Has thick, dark green leaves and dense clusters of pale pink flowers. Very choice. Grows 3′-5′. Prefers fibrous loam and sun or semi-shade.

SKIMMIA JAPONICA—Japanese Skimmia

Asiatic. Dwarf shrub of slow growth. Does very well in moist loam and partial shade. Very healthy and hardy plant. Must have a male plant in group to produce the scarlet berries. S. reevesiana is even smaller than japonica, also producing perfect flowers followed by dark red berries.

ZAMIA INTEGRIFOLIA—Coontie

Genus of cycad family. Coontie is name commonly used. They resemble both ferns and palms with underground tuber-like trunks and handsome, dark green feather-shaped fronds forming tufts about 2′ high. Low growing with good spread as they mature. Soil should be sandy loam and well-drained. Shade or semi-shade, with moisture. Will tolerate cold weather.

TROPICAL AND SEMI-TROPICAL PLANTS FOR POTS, TUBS AND PLANTING AREAS

CARISSA, var. minima—Dwarf Natalplum

Good for planter boxes in full sun. Superior foliage with small, white flowers.

CERATOZAMIA MEXICANA—Mexico Horncone
One of the most tropical of all cycads. 3'-5' feather-type leaves, 5"-8" wide, dark green, leathery and smooth, arise from a small trunk generally not exceeding 1' in height and 6"-8" in diameter. When well-grown, the plant seems to be artificial. Prefers shade to filtered shade, with well-drained soil. Ideal house plant if not over-watered and will adapt itself to almost complete darkness. Will not stand extreme cold.

CHAMAEROPS HUMILIS—Mediterranean Palm
Native of North Africa. Dwarf. One of the hardest and most satisfactory of the Palms. Will do well planted in the ground or in pots. All the fronds come from base of plant, which gives it a desirable shape for container planting. Thrives in fibrous loam with a little well-mixed leaf mold and sand. Palms must be watered freely in summer and soil must not be allowed to dry in winter.

CROSSANDRA INFUNDIBULIFORMIS—Crossandra
India—Malaya. Deep green, waxy leaves. Produces dense terminal spikes of salmon-colored, funnel-shaped flowers. Beautiful for color. Requires winter protection.

CODIAEUM VARIEGATUM—Crotons
Extensively grown in warm or protected regions for their highly colored ornamental foliage which is extremely variable in form and color. Massed in a sunny place during the summer, they give a rich tropical effect. A mixture of fibrous loam with leaf mold and sand suits them well. Some shade is needed in heat of day to prevent leaf burning. Necessary to place indoors during winter.

CYCAS REVOLUTA—Sago Palm
This is most satisfactory for container planting and will also take cold weather.

DION EDULE—Chestnut Dion
Relatively new cycad. Grey fern-like leaves arising from a pineapple-like trunk give it a very graceful appearance. Leaves are rigid; leaflets sharp-pointed. A mature plant will reach 4'-5' in overall height. Will grow in full sun but prefers light shade. Well-drained soil is needed for best growth. Plant away from passing traffic to prevent bruising leaf points. Will withstand 15° unprotected.

DION SPINULOSUM—Mexican cycad
Slimmer, taller trunk and longer leaves than D. edule. Up to 35' indoors, though it generally remains below 10' under garden conditions. Same culture as D. edule, excepting temperature restrictions. Care needed below 26°.

ERIOBOTRYA JAPONICA, var. bronze—
Bronzeleaf Loquat
Asiatic. A very fine variety of Loquat, smaller than the commonly used one. More compact in growth pattern. New growth bronze in color. Will stay in good condition in pots all winter. Plant in rich soil and keep well-moistened. Will grow 4'-5' tall. Likes full sun.

FATSHEDERA LIZEI
A true hybrid between Fatsia japonica and English Ivy. Leaves dark green with 3-5 lobes like large ivy; has long trailing stems. Will not adhere like ivy, needs wiring. Shape may be governed by pinching and pruning. Tolerates sun or shade. Any good soil.

PLUMERIA, several species—Frangipani
Tropical, native of the Caribbean. Large dark green leaves with heavy clusters of flowers, waxy in texture and very fragrant. Grows 8'-10' tall. Best planted in large pots. Should be protected from freeze and frost. Soil should be light in texture, good loam and humus, and plant should be kept well-watered.
Plumeria rubra—pink to bright red with tinge of yellow, sometimes inclined to purple shading.
Plumeria alba has yellow throat, shading into pale yellow and then to white at the end of petals.

LIVISTONA CHINENSIS—Chinese Fanpalm
Excellent for tubs. Does well confined and is very hardy. Semi-dwarf.

PHILODENDRON SELLOUM—Philodendron
Large leaves up to 2' in length. Will stand cold to 17°. Likes semi-shade and very moist soil, which should be a mixture of loam and leaf mold with some sharp sand. May be planted in ground. Very good for tropical effect.
P. selloum juvenile—same as above but with smaller growth pattern. Does well in planter box with other plants.
P. evansii—very beautiful foliage with new leaves a bronzy red. Same care as above.
P. evansii miniature—same conditions as selloum juvenile.

POLYSTICHUM FALCATUM—Holly Fern
Glossy, prickly-toothed fern. Does well in semi-shade and with maturity attains a spread of from 3'-5'. Best planted in porous soil and needs moisture in soil at all times. Will do well through winter.

POLYSTICHUM SETOSUM
Beautiful, feathery fern with all new fronds developing from crown. Needs rich, moist loam and shade. Cold will not harm this fern but should be protected against hard freeze.

SOLANDRA GUTTATA—Cup of Gold
Native of North Africa. A strong climbing evergreen with huge golden funnel-shaped flowers. Large, glossy green leaves. Needs rich soil and must be kept damp. Very beautiful pruned to tree shape for a container or tub. Must be well protected in winter from frost or freeze.
Solandra guttata dwarf—same quality as above but compact and produces mass of flowers at early age. Needs some protection.

STRELITZIA REGINAE—Bird-of-Paradise Flower
South African. Magnificent for foliage, as well as blooms which resemble a bird poised for flight. Each inflorescence consists of about 6 flowers that develop from long purplish bracts. The blooms are bright orange and blue. Plant grows from 3'-4'. Needs good drainage and rich sandy loam. Supply plenty of moisture as growth starts but keep on dry side during dormant period. Needs full sun and southern exposure. Protect from freezing temperature.

S. parvifolia has shorter leaves and bright orange flowers and green bracts edged with red.

S. nicolai—a tree-like form. Has white and purplish bracts.

Tabernaemontana grandiflora—Carnation of India
Asiatic. Grows 4′-5′ in height. The foliage similar to Gardenia but not subject to white fly. Flower is small and double. Pure white and very fragrant. Likes acid soil, some sun, much water, and must have winter protection.

T. coronaria—smaller leaves, more compact.

Zamia
Very good for pots. Will tolerate cold weather and is an attractive plant to stay on terrace during winter season.

PALMS

Chamaerops humilis—Mediterranean Palm
Beautiful, low-growing palm with fan-like leaves. New growth falling out from lower trunk of palm. Very hardy. Any good soil.

Cycas revoluta—Sago Palm
One of the ancient and primitive plants. In this section, it makes a good specimen planted out-of-doors. In pots or tubs, it thrives in good loam with sand. While good drainage is essential, it needs abundant moisture in the growing season. The long, pinnately-divided, stiff, evergreen leaves are arranged in rosette form on top of a strong trunk. If planted in ground, use same soil as described above in well-drained position.

Livistona chinensis—Chinese Fanpalm
Does not grow as tall as Washingtonia Fanpalm. Very hardy. Medium size. Needs good drainage.

Paurotis wrighti—Saw-Cabbage Palm
A clustering fanpalm with slender 4″-6″ trunk up to 30′ tall. Leaves silver-green in sun, greener in shade. Hardy along Gulf Coast, though slow growing.

Phoenix canariensis—Ornamental Date
Small, graceful, and very good for boxes or pots. Hardy to 17°. Grows 2′-3′ high. Drainage must be good.

Phoenix reclinata—Senegal Date Palm
Similar to Date Palm, except it is more picturesque on account of the leaning trunks. Very hardy. Needs good drainage but will do well in any good soil.

Rhapis humilis—Slender Ladypalm
A reed-like oriental palm belonging to an ancient genus. It is excellent in tubs or planted in protected areas in flower beds. Likes well-drained sandy loam. Will form in clusters as new shoots come from parent plant. Grows to 4′-6′. Hardy if protected.

Serenoa repens—Saw Palmetto
A dwarf palm with silvery foliage that makes a beautiful showing when planted in large clumps. Good for shade. Very hardy. Keep moist.

Trachycarpus fortunei—Windmill Palm
Also known as Chusan Palm. Hardy to 5°. Slow growing, but at maturity reaches 20′-30′. Leaves fan-shaped, dark green. Trunk has heavy, dark brown fibers.

Trachycarpus martianus—Martius windmill
Similar to above, but with slimmer trunk, devoid of fibers; much more graceful than T. fortunei. Maximum height 50′. Slow growing, hardy, very worthwhile.

Trachycarpus takil
A neat dwarf palm. Slow growing, seldom exceeding 6′. Wonderful for restricted areas. Hardy, though one of the rarer varieties.

Washingtonia filifera—Desert Palm
Species name "felifera" denotes character of leaves, which have fibrous threads hanging from margin of leaf segments. Very hardy. Trunk quite heavy, often 3′ in diameter. Will grow to 30′ or 40′ in height.

MISCELLANEOUS TROPICAL PLANTS

Agave—Century Plant
americana marginata—large
attenuatta—medium
pumela—small

A genus containing many species of handsome plants with long, stiff leaves forming clumps or rosettes from which rise the tall, bare flower stems. Native of semi-arid regions of America. Soil should be porous with good drainage. The large varieties good for accent in contemporary planting, with the smaller varieties for grouping.

BAMBOOS

Bambusa multiplex—Hedge Bamboo
Fern leaf bearing many very small leaves like a fern—long, glabrous, deep green, silver cast beneath—forming clumps to 10′ in height.

Bambusa multiplex, var. nana—Dwarf Hedge Bamboo
Woody, hollow, green to purplish canes and branching. Relatively dwarf. Usually 3′-4′ high. The small leaves are consistently the same size.

Cyperus alternifolius—Umbrella Plant
A cultivated Sedge on long stems with large palm-like heads. Very good for patios. Does well and is very decorative in pots. Will grow in water or in dry places.

Phormium—New Zealand Flax
Makes striking groups with tropical-type gardens.

P. tenax—the flax lily—grows to 15′ high with long, narrow leaves and numerous dark red flowers clustered on long stems. It has showy color forms, one variegated and one showing reddish-purple foliage.

P. colensoi grows to 7′, has less rigid leaves and bears yellow flowers.

Phyllostachys nigra—Black Bamboo
Black cane with sparse, medium-sized leaves, delicate growth pattern. Will tolerate as low as 15°. Needs moist soil. Grows 8′-10′ high.

Sasa pygmaea—Pygmaea Bamboo
One of the smallest bamboos, rarely taller than 8″, from creeping rootstock, forming dense clumps. Small, leathery leaves, deep green, 1″-2″ long. Excellent for ground cover. Needs moisture and any good soil.

BANANAS

MUSA ENSETE—Abyssinian Banana
Abyssinian—most ornamental, leaves originating from base of trunk. Very large in size and with maturity has dark red veins down the leaves. Grows 12′-15′ in height. Semi-shade and moisture. Any good soil.

MUSA ROSACEA—Pink Banana or Indian Banana
India. Grows 8′-10′ tall. Large, pink flowers are borne all summer, giving colorful effect. Semi-shade and moisture.

MUSA PARADISIACA SAPIENTUM—Plantain Banana
India. The common banana. Tree-like up to 25′ high, with spirally arranged leaves. Flowers yellow, bracts purplish. Edible fruit; after fruiting, the stem dies but is replaced by new suckers. Fairly rich soil with moisture.

MUSA SUMATRANA—Sumatra Banana
Semi-dwarf. Leaves long and narrow, reddish-brown underneath with green and brown spots on top of leaves. Likes well-moistened fibrous soil. Plant in semi-shade. Grows 4′-6′ high.

All members of the banana family are damaged by freezing but will put on rapid new growth the next spring.

The Indoor Garden

It seemed as if they grew in this close room, nor missed the sun and showers.—E. B. Browning

The great variety of growing plants which have now invaded the house may range from a collection of tiny cacti to an indoor garden complete with a pool or fountain. Each variety has different requirements and should be displayed differently. Some plants are chosen for their individual beauty, and their containers should complement their type and shape. Small plant collections may be displayed on shelves or tiers in uniform clay pots which do not detract from their separate interest. Groups of larger potted plants, generally installed in planter boxes, may be used to divide rooms, to conceal defects, or to blend indoor and outdoor areas. The planter box need not be built into the house; it may be added under existing windows or in empty corners; or it may be a portable box on casters. It is sometimes finished in the same manner as the woodwork of the room, lined with a waterproof container, and filled with sphagnum or peat moss, into which the pots are sunk. A mass of plants such as this obtains more vital moisture from the proximity of many leaves and damp soil, yet may be watered, fed, turned, and removed according to individual needs. The most attractive planters are those which make use of both permanent background material as a frame and transient material for color and variety.

EXPOSURE

Since house plants must be able to live in the normal temperature of a house, whatever their native preferences, the next consideration is the amount of light a plant must have. Flowering plants and cacti need as much as possible, at least three hours of full sun each day in a south or east window. Most foliage plants, the philodendrons, dieffenbachias, draceanas, etc., thrive in the bright light or partial sun of north or west exposures, but some tropical foliage plants such as the ferns and some bromeliads will do well in diffused interior light. Regardless of location, all should be turned a quarter regularly, to keep growth straight and balanced. Artificial light, either from an ordinary 100 watt bulb, or a fluorescent tube, may supplement sunlight, or even, on stairways or in interior rooms, entirely supplant it. A plant which has become spindly and lustreless through lack of light may be rejuvenated by a summer in the garden, but care must be taken to accustom it to sunshine by very gradual stages. Hardy plants thrive in ordinary garden beds, others demand bottom pot protection from marauding insects. Layers of charcoal and/or gravel are good. Sinking below level of bed conserves moisture. In this mild climate, the out-of-doors may be used as both hospital and

nursery much of the year, making possible more luxuriant flowers and a much wider range of part-time house plants.

WATERING

The amount and frequency of watering depends on the type of plant, the size of the container, the stage of growth, and the humidity. A plant putting out new growth needs more water than the same plant during its resting period. Furnace heat in winter and air conditioning in summer, draw moisture from the plants, requiring more frequent watering. However, too much water is as harmful as too little, and will soon kill the plant. When the surface soil looks light in color, and feels light and crumbly, it is time to water. Rain water is ideal when available. Occasionally soak the ball thoroughly, allowing the pot to stand in water for a couple of hours, never longer. Leaves need moisture too, which may be supplied by weekly syringing of the foliage, by watering the filler in the plant box, or in mild weather, by putting the plant out in a gentle rain. Smooth-leaved plants may be cleaned gently with a detergent or skimmed milk, followed by clear water. Never use oil or leave a filmy deposit on the leaves. Hairy-leaved plants should have their foliage dusted from stem to tip with a pipe-cleaner or small paint brush. If a plant becomes waterlogged, repot it immediately in fresh soil.

FEEDING

A newly potted or purchased plant generally has sufficient food for about a month. A water-soluble plant food should be applied every month thereafter in amount sufficient to soak the entire container, not just the surface. Diluted liquid manure is an excellent fertilizer but because of its odor a commercial preparation such as Hyponex or Green-Glo is commonly used.

Frequent application of a weak solution is more beneficial than an occasional heavy dose. Plants grown entirely under artificial light require only one-third the amount of fertilizer used by similar plants growing in natural light.

REPOTTING

Even with adequate food, the soil wears out, and most plants need to be repotted every two or three years. Check by holding upside down, and tapping pot until plant slides out. If the roots are a solid mass it is time to repot. The new pot should be *only slightly larger* than the old—allow ½ to 1½ inches clearance between the ball of earth and the sides of the new pot. Soak the pot thoroughly, cover drainage hole with a concave piece of broken flowerpot, add ½ to 1 inch of small chips or gravel, then a layer of coarse compost material or sphagnum moss, and lastly some fresh soil. These graduated layers assure good drainage and will vary in thickness with the size of the pot. Gently rub old dirt and chips from the plant ball, and set it in the pot so the top of the ball will be about 1 inch below the rim, to allow room for watering. Firm new soil around the sides and water thoroughly. A good general potting mixture contains 2 parts loam to 1 part rough leaf mold (or peat moss), 1 part coarse sand and ½ part manure and bone meal.

When a plant has reached a desirable size its growth may be slowed down by tapering off both water and food to a subsistence level. If repotting seems indicated, but a larger pot would be unwieldy, the top soil may be redressed, or some of the bottom roots pruned away to make room for fresh soil in the same pot. Root pruning must always be balanced by top pruning.

FIVE FAVORITE INDOOR PLANTINGS

Philodendron, the best suited of all foliage plants to indoor living, is available in a variety of types, which may be generally divided into climbing forms, tree forms, and self-heading or rosette forms. Natives of the South American jungle, they will thrive in the average temperature and light of the house with only moderately moist soil and a monthly liquid fertilizing. An occasional cleaning or spraying, and repotting every third year complete their modest requirements. Plants with aerial roots such as the monstera deliciosa need some support, as given in nature by tree trunks. The self-headed philodendrons may be induced to form double or triple crowns by pinching out the growing tips. P. Sao Paulo, vigorous and with deeply frilled leaves, and P. Eichleri, sun-resistant and very large, are recent self-heading hybrids which will stand temperatures as low as freezing. Some philodendron offer various colors, such as the P. sanguineum, a vine with red undersides, P. gloriosum, a rosette form with ivory ribs, P. imbe, a vine with dark red spots, and P. sodiroi, a vine with silvery-gray spots and red stems. The size and shape of the philodendron leaf also shows considerable variety; they may be spatulated, heart-shaped, split, star-shaped, or frilled; they may be small or gigantic. A very beautiful planter box may be composed entirely of philodendrons.

Saintpaulia ionantha, better known as the *African Violet,* is probably the most popular of all flowering house plants. It prefers a warm, moist environment with a great deal of suffused sunlight. It may be watered from either the top or the bottom with room-temperature water, and sprayed with water occasionally to remove dust. A well established blooming plant should be fed a light dose of liquid fertilizer every week, but the crown of the plant should not be saturated, as this will encourage rot. African violets need to be slightly pot-bound, and do well in a soil mixture consisting of equal parts garden loam, peat moss (or leafmold) and sand. Healthy plants which refuse to bloom may be shocked into action with measures of strong sunlight, or by being placed within two feet of a fluorescent tube for fourteen hours a day. A beginner's collection with a wide range of color might include: Blue No. 32, Bicolor, Mentor Boy, Norseman, Orchid Girl, Pink Beauty, Red King, and Snow Prince.

Succulents is the somewhat misleading name given to two groups of plants which can survive extreme drouth. The water-storing succulents have fleshy stems or bodies which retain extra water (as do cacti); the drouth-resistant succulents with leathery, coarse, or spiny foliage (such as Yucca) simply suspend growth. These two groups although not botanically related have much the same horticultural requirements, and are the least demanding of all container plants. In the house as in nature, they need sun, dry air, very limited water, and quick-draining, gritty soil. Coarse chips filling the bottom quarter of each pot will guarantee quick drainage. Winter is the dormant period for most flowering succulents, when they require even less water than in summer. They are easily propagated by seeds, cuttings, or graftings. The bizarre shapes of small cacti, sedums, kalanchoes, pincushion cacti, prickly pears, etc. contrast to advantage when planted together in a large container. Many larger types, such as Crassula or Jade Plant, Agave with spiny gray-green leaves, and Aeonium arboreum which looks like a miniature palm, make interesting individual plants. Desert cacti frequently have brilliant flowers, larger than the plants which bore them, but the most renowned flowers belong to the Night-blooming Cereus and Epiphyllum groups. Tall, scraggly plants which often require support, the flowers range from the profuse two inch scarlet blossoms of the Christmas Cactus (Zygocactus) to the fourteen inch spread of the white Queen of the Night (Selenicereus). These require a rich, loose soil, abundant water when growing, and protection from low temperatures and burning sun.

Bonsai is the Japanese technique of growing a tree in a small container so that although miniature it simulates great size and age. Plants with naturally small foliage and flowers, such as azaleas, dwarf pomegranate, Japanese pines, spruce and junipers, are favorite subjects for bonsai. Beginners can find interesting plants among rootbound or misshapen nursery stock; those with gnarled, horizontal, or twisted shapes which are over five years old are most promising for bonsai. Containers should be extremely simple, whether a rectangular tray, a cedar box, or a ceramic pot. Put a layer of coarse gravel over the bottom and then a layer of heavy loam. Test the plant roots in the container for the most effective position, meanwhile keeping the bare roots wet. After severe pruning has been done, the roots should be about the same dimensions as the pot. Plant high, with a few roots showing around the stem, and firm soil down. The first top pruning should establish the main line of the plant, leaving no abrupt cuts. Young branches are trained by twisting insulated copper wire around them in one inch spirals and bending as desired. Wire must be removed in a year, or as soon as it is seen to be girdling the bark. Work towards an asymmetrical balance which appears natural. To maintain health but to avoid vigorous growth, Bonsai should be kept moist at all times and fed very sparingly with an organic fertilizer. They prefer fresh air and broken sunlight, as in a lath-house, so indoor visits should be limited.

Orchids—synonymous with glamour, can be successfully grown as house plants. There are both terrestrial (soil growing) and epiphytic (tree perching—air plant) types, each occurring in a dazzling variety of shapes and sizes. Of the thousands of known orchids, the genus Cattleya is widely acclaimed for the size and beauty of its flowers, and is most tolerant of house conditions. Ideal cultivation includes circulation of humid air, ample water, even temperature, light feeding and enough sunlight to encourage flowering. To allow for the circulation of air, orchids are planted in slotted containers, firmly packed with osmunda (the roots of a fern) or tree bark chips (fir or redwood). A temperature range of 60° to 80° suits them best, but temporary extremes cause no permanent damage. A marked yellowing of the leaves is an indication of too much sunlight, and the direct, blistering noon day rays of the sun should be avoided entirely. Watering is tricky, as each pot must have enough water to saturate the growing medium completely and then must be allowed to become bone dry before being watered again. Orchids, like all epiphytic plants, are very susceptible to rot. Alternate plain water with water to which a hydroponic plant food has been added. Supply extra humidity by setting the plants above water filled trays. Keep the bottom of the pots dry by placing them on gravel or laths. A healthy plant will have straight, medium-green colored leaves with plump pseudo-bulbs (where the stems thicken) and should grow indefinitely. Repotting is necessary only when the plant grows over the edge of the pot or when the potting material has begun to disintegrate. A year round blooming collection should start with a few mature plants and later may be amplified with plants which bloom at other times, or by entirely different varieties, such as the terrestrial Phaius or the Dendrobium or Oncidium spray kinds. The following Cattleyas offer a range of size, color and blooming time:

C. Trianae	Nov. - Feb.
C. Skinneri	Mar. - April
C. Mossiae	April - May
C. Gaskelliana	May - July
C. Bowringiana	Aug. - Sept.

PLANTS WHICH MAY BE GROWN IN POTS

IN FULL SUNLIGHT

Araucaria (bidwilli)
Astilbe
Azalea
Browallia
Bulbs, in variety
Cactus
Calceolaria
Cereus (night blooming)
Cineraria
Citrus Fruits
Coleus
Crassula
Euphorbia (Crotons)
Euphorbia (Crown of Thorns)
Geraniums
Hoya (wax plant)
Kalanchoe
Ornamental peppers
Ophiopogon (Monkey Grass)
Strelitzia
Succulents

IN SUN SEVERAL HOURS A DAY

Anthurium
Aralia Elegantissima
Araucaria excelsa
Begonias
Bromeliads, in variety
Bulbs, in variety
Dracaena
Grape Ivy
Orchids
Peperomia
Sedum

IN SHADE OR PARTIAL SHADE

Alocasia
Artillery Plant
Aspidistra
Begonia
Caladium
Calathea
Chinese Evergreen
Crassula (Jade Plant)
Curculigo capitulata
Cyclamen
Devil's Ivy (Pothos)
Dieffenbachia
Dracaena
Episcia cupreata
Fatshedera
Ferns, in variety
Ficus Elastica (Rubber Plant)
Fittonia verschaffelti
Gloxinia
Grape Ivy
Nephthytis
Orchids
Palms, in variety
Pandanus
Peperomia
Philodendron, in variety
Saintpaulia (African Violet)
Sansevieria, in variety
Schefflera
Spathiphyllum (called white anthurium)
Tradescantia (Wandering Jew)

PLANTS WHICH MAY BE GROWN IN WATER

Chinese Evergreen
Coleus
Devil's Ivy (Pothos)
English Ivy
Grape Ivy
Nephthytis
Philodendron
Pussy Willow
Shrimp Plant
Sweet Potato
Tradescantia (Wandering Jew)

The Vegetable Garden

Let it please thee to keep in order a moderate-sized plot, that so thy garners may be full of fruits in their season.—Hesiod

A vegetable garden is a valuable asset and merits space in the over all design of the home grounds. Such a garden, when well kept, can be very decorative, especially when combined with fruit trees, small fruits, herbs, or borders of cutting flowers. A home vegetable garden will provide many new and out-of-season vegetables that cannot be readily obtained in local markets, and may be small or large, according to the family's dietary needs and the amount of available deep-freeze storage. On small properties, where space is limited, a considerable number of vegetables can be grown to good advantage in the flower borders.

VEGETABLES

In locating the vegetable garden, it is important to provide sunshine five to six hours daily, good drainage, available water and fertile soil. During the fall or winter the ground should be dug and fertilized with well-rotted manure or a complete commercial fertilizer especially recommended for vegetable growing. Additional feedings of quick-acting fertilizer may be applied every five or six weeks, according to directions. During the growing season shallow cultivation should alternate with thorough waterings. As most vegetables prefer a slightly acid soil, it is advisable to test the soil at intervals for best results. Garden rows usually run north and south in order to provide equal sun exposure; with the taller plants kept to the back, on the north side. Because it is possible to grow vegetables the year round in Houston, the garden should be carefully and systematically planned on paper so as to utilize it to the utmost. (For monthly plantings, see The Circle of the Year, page 9.)

Garden bulletins, which list improved and recommended varieties of vegetables and give detailed instructions for their culture and control of diseases and insects, may be secured from County Agents or State Experiment Stations. Seeds should be purchased from reliable dealers to insure freshness, disease resistance and quality. Plants started in flats or under hotkaps produce a crop earlier by three to four weeks. Hotkaps are waxed paper covers, easily ventilated, which protect seedlings from frost, rain, and insects for the first six weeks or more.

Intercropping, succession and *rotation* are terms commonly used in vegetable gardening. *Intercropping* is the practice of planting rows of quick-growing crops, such as lettuce, spinach, or radishes between widely spaced slower-growing crops, such as peas, tomatoes, and celery. *Succession* cropping is growing two or three crops on the same soil in one season; for example: early peas, followed by later planting of beets, carrots or cabbage. Waste is avoided by making smaller and more frequent sowings, and as each crop matures, another may be started. This method of planting is particularly desirable where space is limited, and requires an abundance of soil nutrients and water. *Rotation* is the practice of changing the location of different vegetables from year to year, such as planting root vegetables where leaf crops had formerly grown.

HERBS

Gardeners who are nostalgic for old-fashioned home-grown vegetables, but lack the space, may find a satisfactory substitute in a well-planned herb garden. They may be grown in as limited an area as a kitchen window-box or a series of pots on a sunny terrace. They may be interspersed in existing flower beds, grown as a border, or, elegantly reminiscent of Colonial days, as a formal division of the vegetable garden. A minimum list would include the two bland herbs, parsley and chervil, which blend in seasoning with the more pungent rosemary, savory, tarragon, and sage. Other milder choices might include basil, oregano, borage, mint, thyme, dill, sweet marjoram, and fennel. Garlic and chives, which are actually bulbs, would complete a well-balanced herb collection.

Herbs are easy to grow because their requirements are so average. Nearly all prefer light soil, good drainage, and plenty of sun and water. Too much fertilizer will make them long on foliage but short on flavor. Many perennial herbs when cut down part way, will send up fresh tops for further cutting. All during the long growing season the lilting aroma and taste of newly-snipped herbs, will add a new dimension to your garden.

Before autumn comes, you may harvest your winter supply. Those which are to be used for their leaves should be cut just before the flowers open, when the essential oils are heaviest. Cut them in the dew of the morning, on a dry sunny day. Wash throughly and shake dry; pick over for bad leaves and cut off flower heads. Spread them out, each type separately, on wire mesh trays or large papers in a warm, dry room. Turn them every day until they are thoroughly dry, then strip the leaves from the stems and store them in sealed jars. Gardeners with home freezers may have fresh herbs all year round. Simply wash in small bunches, shake well, and put in plastic bags sealed with tape or bands. Whichever method is used, be sure to label carefully.

At the end of the fall season, all perennials should be cut down to within three or four inches from the ground, and, mulched, will live through the winter. However most perennials have a given life-span, and when their time has elapsed, they must be replaced. (See Herb Chart, page 153.)

Propagation

. . . *such gardens are not made by singing:—"Oh, how beautiful!" and sitting in the shade.*—Kipling

Propagation of plants is the art or skill of producing new plants from parent stock by various methods: by means of seed or the vegetative processes of divisions, cuttings, layering, grafting or budding. In recent years experiments have resulted in new propagation

methods, such as artificial pollination with synthetic plant hormone solutions; and further investigation and improvements are under way.

SEEDS

Propagation from *seeds* is a very common method of obtaining new stock, as most plants produce seed, and some species reseed themselves freely. The essential factors which enter into the successful raising of plants from seed are: properly prepared soil, good fresh seed, and the requisite amount of sun, shade and moisture. Pretreated seeds may now be purchased, which are resistant to "damping off," or seeds may be dusted before sowing, with a special disinfectant preparation, available at seed stores, for this purpose. Some seeds need only to be scattered freely to produce a profusion of plants, while others require more careful planting. Seeds should be planted thinly in moist soil, usually twice their depth, and the soil pressed firmly above them. Extremely fine seed should be mixed with sand and pressed lightly but not covered. It is a common fault to sow seeds too deep and too thick.

Germination of many seeds may be hastened by dusting them with hormone powder. Hard-coated seeds, or seeds which are naturally slow to sprout, such as sweet peas, nasturtiums, and parsley, should be soaked in tepid water before planting. Any seeds which have been soaked should be planted before they dry out. Bluebonnet and Texas Bluebell seeds should be planted when ripe, otherwise they will become hard and need to be soaked. The growth of certain hard seed, such as Canna, Coralbean and Mountain Laurel can be accelerated by sandpapering or chipping away part of the hard seed coat. This horticultural procedure permits moisture to enter the inner part of the seeds without delay. The seeds of many flowering shrubs germinate in the first year after sowing, but there are numerous garden shrubs and trees which commonly require two years or more before the seeds germinate. Nuts, if not planted as soon as ripe, should be stratified, (stored in moist peat moss or sand) to simulate the usual conditions under which they sprout. (The planting charts on page 144 give approximate germination periods for this latitude.)

Although seeds of *bulbs* take three or four years to bloom, a single choice bulb yields dozens of fertile seeds. Agapanthus, hybrid spurias, and hybrid amaryllis may be produced in great quantity by planting the seeds. (To insure true color of amaryllis, tie cheesecloth or a paper bag around bud before it opens and fertilize pollen artificially.) Allow the seed pods to ripen and dry on the stalk. Fertile seeds are those containing a kernel. Fill a wooden box 4″-6″ deep with friable soil. Press each seed into soil one inch apart, bearing down strongly with finger. Over entire surface sprinkle ¼ inch of soil, but do not press down. Place four sheets of newspaper the same size as the box directly on soil, and weight the edges with narrow strips of wood. Wet paper thoroughly, then cover all with a pane of glass. Place the box in semi-shade, and sprinkle the paper lightly whenever it seems to be drying out. After five or six days, when the sprouts are ¼ inch tall, remove the paper and replace the glass. Keep soil moist but not sopping. Seedlings may be planted in the open ground when 7″ — 12″ tall. Too much shade makes spindly seedlings. Correct fertilizing and watering will bring them to earliest possible bloom.

OPEN BEDS

Open beds should be carefully prepared by having the soil worked thoroughly and fertilized. Beds should be watered sufficiently, so that no further watering will be needed until the seeds germinate. Seeds of bedding plants, especially those which do not transplant easily, (such as Poppies, Phlox and Larkspur) may be broadcast where they are to bloom. Seeds of edging plants, (as Sweet Alyssum) may be sown in shallow drills. When planting in open beds, mix the seed with sand to insure thin sowing and to reduce the labor of thinning out excess plants. Newly planted seeds may be protected from hard rains by covering with cheesecloth or burlap.

FLATS

While a greenhouse is ideal for starting difficult seeds, *flats* are most desirable and generally used, as they are easily handled and protected from rain and extremes of heat and cold. Flats may be purchased ready-cut or made at home. The usual dimensions are three inches deep, 12 inches wide, and 18 inches long. Because some seed require a longer time to sprout than others, it is advisable to plant in the same flat those which take about the same time to germinate.

Old flats should be whitewashed to destroy fungus and to preserve the wood. Pots used for seed planting should be scalded and scrubbed. An inch layer of gravel or broken flower pots should be spread over the bottom of the flats, or whatever receptacle is used. Flats should be filled even with the top with light porous soil in a mixture of one part good garden loam, to supply food; one part coarse sand, to improve drainage; and one part peat moss to retain moisture. The soil may be sterilized by heating as an extra precaution against damping off. A thin layer of Vermiculite spread over the soil is an excellent sterile medium for starting seeds, with maximum germination. The best method of watering pots is to set them in water until the soil becomes moist. Overwatering is injurious.

Flowers and vegetables that are needed early must be started under glass, in flats placed in *coldframes* or *hotbeds,* and covered with lath, newspaper or clean burlap. This covering may be gradually lifted on sticks as the tiny plants develop and are ready for the full light. Essentially, a coldframe is a bottomless box with a sloping glass or plastic-glazing top which sheds rain and conserves heat. A hotbed is of similar construction, but is heated in order that seeds may be started in it during cold weather. Sometimes electricity is used, but manure or leaves, or a mixture of both, are commonly used for heating hotbeds. Raising or lowering the sash of the coldframe or hotbed permits change of air and control of temperature, and necessary watering should be done with a fine-spray nozzle.

TRANSPLANTING

When the small seedlings have from two to four or more "true" leaves, they should be carefully "pricked out" with a knife or sharp stick, and transplanted, to stand farther apart in other flats, or be set in permanent beds. The flats should be watered well before seedlings are removed to new soil, which should also be moist. Some species, Pansies for instance, do better if reset and transplanted twice, since this develops stronger root systems and sturdier plants. Seedlings that grow too quickly need to be thinned out before they become leggy, in order that the plants may develop shorter, stronger stems and a well-balanced top growth.

In any transplanting, pressure of the soil against the roots is necessary to anchor the plant and to bring the roots into closer contact with the soil in order that they can absorb moisture and food. Many plants have highly developed *taproots,* as well as a system of *fibrous roots.* Great care should be exercised to prevent injury and breakage of the root system. Bare-rooted plants may be dipped in a rooting hormone solution to speed growth. The roots should be spread out to their natural position, and bits of earth clinging to them should not be shaken loose because many hair roots may be torn off with them. To prevent decay, badly bruised roots should be snipped off with shears.

If plants are transplanted on a cloudy day they will not wilt easily and will take almost immediate hold in their new surroundings. If transplanting is done in sunny weather, wilting can often be avoided by inserting sprays of evergreens among the plants to provide shade. Summer transplanting is generally considered dangerous, but it can be done safely if the plants are well encased in a ball of earth, water is used liberally, and temporary shade is provided.

DIVISION

Vegetative propagation without using seed is carried out by *dividing into sections* those species which form bulbs, corms, tubers, rhizomes or crowns. Varieties which do not reproduce seed, or reproduce true to color or form because the seed-producing flowers have been cross-fertilized, are perpetuated by this reliable method.

Many of the bulbous plants, such as Narcissus, Tulips and Hyacinths, propagate naturally by the division of the bulbs into smaller bulbs or bulblets. This type of bulb, when naturalized, should be separated from time to time to avoid over-crowding. Some other species, such as the Tiger Lily, form aerial bulblets in the leaf axils. These may be planted in the same way as the bulblets produced on the underground parts.

Scaly bulbs, such as those of many lilies, may be propagated readily by removing the loose outer *scales* and planting them in the same way one would plant seeds.

Corms are bulb-like structures, popularly classed as bulbs. They increase in much the same way as bulbs, by one or more tiny corms, known as *cormels,* being produced on top of the parent corm. In Gladiolus, the cormels are formed around the base of the new corm. Cormels are planted in essentially the same way as seeds. If properly cared for by transplanting when they become crowded, they will grow into corms of flowering size in from one to four years.

Tubers are thickened stems with eyes below the soil, such as potato and Jerusalem artichoke. Tubers are easily propagated by planting whole or cut in sections, each possessing an eye, from which a new plant will sprout. *Tuberous* roots have eyes in the stem, such as Dahlias and Daylilies. For propagation purposes the roots should be cut with a portion of stem attached to each division.

Rhizomes are underground, or partially underground, stems, which if cut into portions, each bearing a growth bud, rapidly increase the plants producing them. Usually such divisions are made when plants are dormant, (cannas, for example) but in the case of Bearded Iris most gardeners prefer to do this soon after the plants have bloomed.

Slender shoots that run along the surface of the ground, which root and develop into a succession of new plants, are known as *runners*. These may be separated from the parent stock and set in new locations. The Strawberry is propagated by this means.

Stolons are underground suckers, or trailing branches, peculiar to some species, which come in contact with the soil and take root. Stolons may be severed and transplanted. Some Azaleas and many grasses, such as St. Augustine, may be propagated in this manner.

Many garden plants form *crowns* that may be broken apart with the hands, or cut with a sharp spade, into root-bearing sections which, when replanted, form new plants. Clumps should be lifted and divided at intervals if the plant's vigor is to be maintained and new plants secured.

LAYERING

Several methods of *layering* are used to multiply new stock from plants which are difficult to propagate by other means. *Simple layering* is the easiest method. Strong, young branches, notched on the underside, may be pegged firmly to the ground, preferably at a joint or near an eye. The cut portion should be buried about two inches deep, in order that calluses will form at the cuts, on which roots will develop. When layering woody or semi-woody plants, strong shoots should be slit part way and a wedge or pebble inserted to keep the cut open. Layers are usually made in the early spring, in order that roots may develop by fall, when they may be severed from the parent plant and transplanted. Many plants, including Jasmines, Pink Magnolias, Holly, Dogwood and most hardwood shrubs, may be easily increased in this way.

When *serpentine* or *continuous layering* is employed, several plants may be obtained at the same time from one long flexible shoot, as Grapes, Ivy, and some Roses. In serpentine layering a long shoot is undulated and the lower loops covered with earth. In continuous layering the long shoot is pegged down and covered lightly with earth throughout its length.

In *mound layering* the parent plant should *be* cut back to promote the production of quantities of young shoots near the ground. A layer of earth is mounded over the center of the plant until the stems root. These rooted shoots are cut off at normal ground level and planted: the parent or mother stock plant is then allowed to produce another crop of shoots that are in turn mound layered. This method is used mainly with low bushy shrubs, such as Azaleas, Hydrangeas, Japanese Quince, and Spirea.

Trees and shrubs whose branches cannot be conveniently brought into contact with the earth may be propagated by *air-layering,* often called *Chinese-layering*. A notch should be cut in the branch or the bark girdled and kept open at the point where root formation is desired. A ball of well saturated sphagnum moss should be bound firmly with plastic over the wound. The moss will stay moist until sufficient roots have formed, when the rooted branch may be severed and planted. This method, commonly applied to Rubber plants, Crotons, Dracaenas and similar foliage plants, causes the old plant to leaf out and become more shapely.

CUTTINGS

Cuttings are sections of plants that are rooted in shallow boxes or pots of sand, soil, peat moss or one of the patented root growth mediums. There are several methods of taking cuttings of most shrubs and trees, both deciduous and evergreen, from roses, and many perennials. Cuttings made of root, leaf or stem may be made at any time of the year, but the early spring months are considered best.

The new root-inducing substances now available, are chemicals that provide quick and easy ways to propagate new plants by soaking cuttings for a recommended time in a solution, or coating the lower inch of the cutting with a powdered preparation. *Synthetic plant hormones,* marketed under various trade names, are proving very successful in stimulating root growth of plants heretofore considered difficult to propagate. Directions should be implicitly followed with all chemicals, as success depends mainly upon using the correct strength of the solution and the proper duration of treatment for each particular type of plant. Fungus attacks on cuttings, which often causes them to rot, may be prevented by dipping the ends in a mixture of one part Fermate and nine parts hormone powder.

Stem Cuttings, the type usually employed by amateur gardeners, are made of non-flowering shoots of either half-ripened wood, (softwood cuttings) or of dormant shoots, (hardwood cuttings). All cuttings should be made just below an eye or bud, with a sharp knife, into lengths containing three or four eyes. Cuttings should be stripped of all surplus leaves except the upper two, which should be cut in half. Important factors in the success of cuttings are: a good rooting medium, adequate shelter from wind and sun, and sufficient moisture. The roots develop from a *callus* formed on the cut surface, and when the roots are about an inch long the cuttings should be repotted or placed in good garden soil.

Although hardwood cuttings usually take longer to form roots than those of softwood, they may be rooted more successfully in the open ground. Hardwood cuttings of shrubs and trees may often be rooted where they are to remain, if planted in holes the size a posthole digger makes, filled with a rooting medium. If kept constantly moist, the roots of the cuttings soon go through the medium and into the soil, so that it is not necessary to transplant them. When cuttings are taken in quantity in the late fall, they may be tied in bundles for convenience, buried completely in moist earth or sand, and mulched. In the early spring the majority will have callused or rooted, and may be planted in beds for further development. Some cuttings, such as Oleander and Willows, root easily in jars of water.

Heel cuttings are made so that a small portion of the older stem is left at the base of each cutting. Although this type of cutting is more damaging to the parent plant, they root more readily than when cut off below the node.

Leaf cuttings, taken from certain plants, generally those that are fleshy or succulent, soon form roots and new plants. Rex Begonia leaves should be cut across the larger veins and pegged down in damp sand, while leaf sections taken from Sansevieria plants should be simply cut into sections and stuck in moist sand.

Root cuttings: This method is the easiest of all in the case of Crapemyrtle, Blackberry and many trees and perennials. The roots, when cut into sections and covered with earth, soon form new plants.

GRAFTING AND BUDDING

The word "graftage" is used to include both *grafting* and *budding*. The difference between the processes is slight, both being used to unite the growing tissues of two plants which are botanically related. Many varieties of citrus fruits are rendered more hardy by being grafted or budded on the native orange stock known as Citrus trifoliata, which becomes dormant and practically frost-free in winter. Many varieties of ornamental trees and shrubs are grafted or budded on stocks having a stronger root system.

In grafting, the base of the shoot, known as the "scion," is shaped and inserted into a previously prepared incision in the stem or branch of a rooted plant, known as the "stock." Good contact between the soft outer tissues or cambium layers of scion and stock is essential. The two are bound tightly together in order that close contact is maintained, and the graft is often covered with a grafting wax to insure that the juncture does not become dry before the union is established. Shoot roots growing from below the point of grafting, continue to produce their own characteristic leaves, fruits and flowers. In order to give all possible strength to the new and desirable growth, all suckers coming from below the point of union should be cut off. There are numerous types of specialized grafting practiced by experienced gardeners, mainly whip, bark, splice. saddle, veneer, side, and shield grafting.

Budding involves the same essential processes, except that the scion consists merely of an axillary bud, together with a small portion of the outer tissues of the stem on which it was borne. The practices of grafting and budding require accuracy and skill, and there is much to learn from authoritative writers and nurserymen.

Pruning

When love and skill work together expect
a masterpiece.—John Ruskin

No phase of gardening maintenance is more important than that of pruning. Knowledge of plant structure is necessary for intelligent and successful pruning, and each individual plant should be studied before any trimming is attempted. The *fundamental principles* of good pruning are: to control undesirable habits of growth; to remove old, diseased and surplus wood; to shape; to increase quality and quantity of the flowers and to promote growth. Judicious pruning will often accomplish wonders, while improper pruning sometimes irreparably injures or even ruins plants. This is particularly true of shade trees and evergreens. No attempt should be made to prune a tree suffering from decay or major injuries, as such treatment requires the skill of a trained tree surgeon. Proper pruning for power line clearance is best done by reliable tree surgeons, and many utility companies employ professionals for this purpose.

Usually, in pruning shrubs, the branches should be cut, preferably on a slant, just above a bud or joint, pointing in the direction in which it is wished to have the bush develop. When pruning a large shrub or tree, the branch should be cut back to a point where it forms a fork with another one. If stubs are left, decay or disease often result. All pruning cuts larger than an inch in diameter should be covered with special *pruning paint* to facilitate healing and to waterproof the wound.

Pruning tools should be carefully selected for the work they have to perform, and kept sharp in order to minimize injury to the plant tissues.

Many ornamental shrubs do not require regular pruning but need systematic trimming to maintain the characteristic habit of growth. Often the shortening or removal of a too obtrusive branch is sufficient, which may be cut well inside the shrub to hide the stub end. Improperly selected plants, which grow too high or too large for their locations, may be kept in bounds by the discriminating use of the pruning shears. Top and root pruning have a retarding effect on growth, and are often practiced on foundation planting which, if left alone, would grow out of scale. *Root-pruning* consists in cutting around a plant with a sharp spade, about two feet from the main stem. Wisteria that does not bloom will often benefit from severe root pruning which discourages excess new growth and stimulates the creation of blooms on the old wood. When transplanting shrubs, root pruning is particularly advantageous if done several months previous to the move. Crapemyrtle, Althea and Ligustrum may be changed from tall, tree-type shapes to low, shrubby types, by cutting back severely in order to develop a large number of canes.

The removal of old, winter-killed or diseased parts improves the appearance of woody plants and frequently saves the lives of sick ones. Diseased wood should be burned immediately after removal and tools should be sterilized with a good household disinfectant, before they spread infection to another plant. Half-dead or winter-killed shrubs should be cut to the ground, and manure or leaf-mold should be incorporated in the soil about them in order to force growth. Hydrangeas are usually pruned in March while dormant. This pruning should be restricted to the removal of thin spindling shoots and to cutting back the tips of the canes to sound wood, if they have been injured by the winter. To rejuvenate old, over-grown shrubs, cut off at the ground all thin main shoots that are woody and sparse of foliage at the bottom, in order that younger and more vigorous shoots may be given room to develop.

Any pruning of ornamental shrubs should always be done at the correct season. The term *dormant pruning* is used to indicate any time after the plants have become dormant in the late fall until the early spring growth starts. Shrubs which produce their flowers on new wood during the summer, should be severely pruned when new wood ceases to be produced or flowers and foliage are of inferior quality. This pruning is done in the winter in order to make abundant new wood before the flowers appear. Practically all evergreens, fruit and shade trees should be pruned during the winter, when necessary.

Evergreens are frequently pruned in December in order that the branches may be used for holiday greenery. By pruning properly, the plants may be kept in better conformation and density. Evergreens can be forced to *spread* by cutting out the top shoots; or if *upright growth* is desired, the spreading branches may be pruned. Conifers need little pruning, but when necessary, pinching out the terminal buds will usually insure symmetry and promote bushiness before the new growth starts in the spring. If the leader is destroyed, a lateral branch may be bound in an upright position to take its place.

Most *spring blooming* shrubs flower on wood that is one year old, or more, and should be pruned *immediately after flowering,* or even during bloom if the branches are wanted for flower arrangements. Blossoms to be cut should be taken from the densest part of the plant or from a branch which is growing out of bounds and spoiling the natural form of the plant. Stems should never be broken but always cut with a sharp knife or shears. Delay in pruning these shrubs often results in the loss of plant vitality and does not allow sufficient time for the production of ample wood for next spring's flowers. All dead and useless wood should be removed near the ground level.

Pruning, used to *shape* specimen shrubs or trees in formal plantings, should be started when the plants are young and easily shaped, and must be constantly clipped to preserve the compact formal growth. Clipped hedges are examples of this type of pruning. *Topiary pruning,* largely used in English gardens, is the close shearing of trees, shrubs and evergreens into definite forms and shapes, such as animals, pillars and archways. Yews and Arborvitae often need to be sheared lightly to maintain their forms. Camphor trees may be sheared once or twice in the spring to produce a new growth of rose-tinted foliage. Espaliered fruit trees or evergreens trained for landscape effect against walls, need almost constant pruning throughout the growing season to maintain their shape. Side shoots are removed but the leaders are left untrimmed in order to allow them to be trained horizontally, obliquely, or vertically, depending upon the width and height of space to be filled.

Disbudding, or pinching back, is a form of pruning commonly used for many garden flowers. In the culture of specimen Chrysanthemums and Dahlias, all flower buds and side shoots should be pinched out as fast as they appear, in order to throw strength to one large bloom. Most annuals need pinching back of the *main stem,* in order to develop side buds in the axils of the leaves. This practice may delay the flowering period but will result in stocky, compact plants and many more flowers.

The flowering season of many annuals can be greatly prolonged by removing all blossoms as soon as they wither, because seed formation slows down the plant's activity. Some plants, such as Sweet Alyssum and Phlox Drummondi, may be sheared back with advantage after the peak of bloom has passed, with the object of obtaining another crop of flowers.

Shrubs and trees to be pruned while dormant, in winter or early spring:

Abelia
Althea*
Beautyberry (Callicarpa)
Butterflybush*
Buttonbush*
Chaste tree (vitex)*
Crapemyrtle
Elderberry
Hibiscus
Hydrangea*
Oleander*
Parkinsonia*
Plumbago
Poinciana*
Pomegranate
Salt-cedar*
Willow, flowering*

Shrubs and trees to be pruned immediately after flowering, before blossom buds have formed for the next year:

Bottlebrush
Cape jasmine
Climbing spring roses*
Deutzia*
Dogwood
Flowering fruit trees*
Haw, Black
Honeysuckle, Bush
Huisache
Japanese Flowering Quince
Jasmines
Mockorange
Photinia
Pittosporum
Redbud
Redbud, Dwarf
Spirea
Viburnums
Weigela

Those marked with a star (*) should be pruned to increase blooming.

Winter Protection

The melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows brown and sere.—Bryant

In normal Gulf Coast winters, very little protection is required to bring plants of reasonable hardiness safely through the cold "Northers," but experienced gardeners look forward with trepidation to the alternate freezing and thawing of disastrous winters. Weather-wise gardeners know that an exceptionally mild winter, with short sudden cold spells, is likely to cause more havoc than continuous sub-zero weather. A long mild autumn, ending with a sudden freeze, is far more damaging than a winter freeze after the plants have been subjected to cold gradually.

Hardiness of plants usually means their ability to withstand low temperatures and their capacity to stop and start growth in the fall and spring. Frost resistance usually increases with the age of the plant. Young plants are more susceptible to damage and often are killed outright by a frost which only damages the new shoots of older plants of the same variety growing in the same vicinity. *Severe prunings and applications of nitrogenous fertilizers should be avoided in the fall,* as they stimulate a lush new growth which is unable to survive low temperatures. Plants which have been *weakened* by either disease or insects are usually the first to succumb. Indigenous plants, as a general rule, are less likely to be affected by frosts.

There are marked differences in temperature in the various parts of a garden, because cold air collects like water in the lowest levels causing frost. For this reason, half-hardy plants, growing in an apparently sheltered but low situation, may be damaged by frost, when other plants of the same species, growing in more exposed locations, escape unharmed. Tender plants growing in raised beds are often saved from frost because of the elevation of a few inches. The heavier nature of cold, frost-laden air is often shown when the lower parts of a plant or shrub are injured and turn brown, while the upper parts remain green and unharmed.

The injurious effects of temperature changes may often be lessened or prevented by certain protective measures. Beneficial fall rains help to counteract the dehydrating effect of winter winds. It is much better for plants to freeze

wet than *dry*, and if there is sufficient warning of a freeze following a long dry spell, the damage can be minimized by a thorough soaking of the soil before the temperature drops. This watering has the added advantage of causing the downward growth of plant root. This is especially important for evergreens, since lack of adequate moisture during the fall is one of the main causes for winter injury. *Good drainage* is necessary, however, as a winter protection, for many plants are injured and killed because of standing water. Frost damage may be lessened by protecting plants from direct sunlight during a thaw, and *watering* plants well in the morning *after the freeze* to reduce loss of moisture through evaporation.

In this area *mulches* are commonly used for year-round protection from the heat in summer and from cold in the winter. They are especially effective in winter when used to maintain an equable soil temperature during the alternate thawing and freezing, which is often fatal to plants which can survive continuous frost. A winter mulch should not be applied too early in the season, and may consist of pine needles, peat moss, oak leaves, straw, Spanish Moss, salt hay, or bagasse (refuse from the cane mills). The roots and lower stems of many tender shrubs and vines may be protected by a dry mulch or earth hilled around them, even though the tops freeze. Among these are: Hibiscus, Bougainvillea, Allamanda, Plumbago, Hydrangeas and Poinsettias. To be effective, a temporary winter mulch should be applied in such a manner as to remain open to air circulation and should be lifted off when the weather moderates.

Because sudden cold spells come unexpectedly, the weather predictions should be watched, and temporary covering material should be on hand for *tropical* and *semi-tropical* plants. Plastic coverings of various sorts, made for special protection, which can be stored away when not in use, are advisable in place of unsightly and grotesque wrappings. The use of Hotkaps, paper bags, fruit baskets, etc., eliminates weather damage to bedding plants showing new growth. Crates or vegetable baskets lined with paper, may be used for larger plants, such as calla lilies, which have been planted for winter bloom.

It is essential to wait until all danger of frost is past to cut back frozen trees, shrubs and plants. Usually the damage proves to be *less* extensive than first observations indicate, and there is an excellent chance that the plants will survive *if not pruned hastily*. The frozen tops serve as a protection to the unfrozen portions in case more cold weather comes. Later, when the buds and new growth clearly indicate how much of the plant is alive, it may be cut back to the firm, vigorous portions. The tops of tender plants which have been severely damaged or killed to the ground *should not be cut off until after new growth starts from the roots.*

Diseases and Pests

It is not the disease but neglect of the remedy which generally destroys.—From the Latin

Most gardeners understand cultural practices far better than they do the application of disease and insect control measures. *General cleanliness* in garden maintenance is of the utmost importance as a preventive of plant diseases and insect attacks. All *healthy* garden debris should be added to the compost pile, and all *disease-affected* plants or parts should be removed and promptly *burned*. Good garden practices which play an important part by promoting vigorous healthy growth are: proper cultivation, adequate fertilization, the use of disease-resistant varieties of plants and certified and fungicide-treated seeds. Another good garden practice is to recognize and protect beneficial insects which are helpful in keeping down others which are pests. *Biological control* as a means of eliminating harmful insects is becoming more universally understood and practiced. Dealing with this phase is a thought-provoking pamphlet—"The Handbook on Biological Control of Plant Pests" from the Brooklyn Botanic Garden, edited by Cynthia Westcott.

There are, in general, two classes of destructive agents—diseases and insects—against which the gardener must wage a continuous control program. Because diseases are more easily prevented than cured, it is important to apply *a protective fungicide covering* before the disease appears, or at least, before it has made much headway. Insects should be fought with the use of *insecticides,* as soon as their presence is discovered.

Dormant sprays may be used on all ornamental shrubs and trees, including fruit and citrus, as a *prophylactic measure* that prevents inroads of disease and insects. The effectiveness of dormant sprays, applied during the winter before and until the new growth and buds appear, is well recognized by experienced gardeners. Such clean-up sprays must be applied thoroughly to combat *hibernating insects, egg masses, scale diseases* and *disease-bearing spores.* A good dormant spray is made by using 10 tablespoonfuls of *lime sulphur* to one gallon of water. For larger amounts, use four pounds of lime sulphur to 25 gallons of water. When an *oil spray* is desired to kill *scale* on broad-leaved evergreens, use one gallon of *oil emulsion* to 25 gallons of water. The same sprays, but of less intensity, are often used during the summer months to kill marauding insects and to check disease.

There are a number of new chemical dusts and sprays for fruit, vegetable and flower garden use, which simplify disease and pest control materially. Many brands contain Malathion or Methoxychlor for insects and Captan, Ferbam, Phaltan or Zineb for diseases. *Multi-purpose* preparations, when properly used at the proper time, will take care of whole groups of destructive pests, including both sucking and chewing insects, and also most plant diseases.

Every gardener should have on hand a few standard remedies and means of application. It is best to purchase only one season's needs at a time, as by the next season there may be newer products on the market or the old ones may have deteriorated. Consult reputable nurseries and garden supply dealers concerning the latest developments in fungicides and insecticides. The labels on all products should be read *carefully* to make sure that the "active" ingredients will answer the need; and when using, directions should be followed *exactly* in accordance with the manufacturer's instructions. During periods of extremely high temperatures (over 90°), sulphur should be applied lightly and only when necessary, and sprays should be used in the early morning or late afternoon, preferably the latter. Fungicide or insecticide sprays should not be applied to *wilting* plants. Spraying should be done *after* plants have been refreshed by a good watering. In using liquid sprays, it is important to throw as *fine* a mist or fog as possible. All dusting materials, unless otherwise indicated, should be applied on a *still* day on *dry* foliage. Most gardeners prefer dusts because they are simpler to apply and usually require no measuring or mixing.

Extreme caution should be used when working with poisonous chemicals. The warnings on the labels are not exaggerated. Such sprays and dusts should be kept away from children, pets and food. Material should be kept in its original labeled container, if it can be properly sealed. All containers should be destroyed when empty. When spraying or dusting, food and drink receptables belonging to pets should be covered and pools should be guarded against contamination. Smoking should be avoided. A damp handkerchief tied around nose and mouth is a good safeguard. Care should be taken not to spill the insecticide on the skin. All applicators should be emptied and rinsed with clear water after using. Any material left should be put in tightly closed, labeled containers. Any residue should be put down the drain. Face and hands should be washed thoroughly upon completion of the job.

The following plant diseases and pests are commonly found in this area. The improved treatments and control measures outlined are according to the latest information of leading authorities. If the gardener is in any doubt about diseases or insects, send twigs, leaves or specimens to the State Experiment Station, A & M College, College Station, for identification and specific control.

DISEASES

The most common cause of plant diseases are fungi, bacteria and viruses. *All* plant diseases are controlled by the systematic use of sprays or dusts containing some form of *copper* or *sulphur*. Although several new insoluble copper compounds have been developed, the old reliable Bordeaux mixture, containing copper salts, is still considered one of the best fungicides. When treating *fungus* diseases it is desirable to *coat both sides* of the leaves. (When using cut material that has been sprayed, Bordeaux stains may be removed with a weak vinegar solution.)

Azalea Petal Blight is indicated by small brown spots on white Azaleas and white spots on colored varieties, which appear suddenly and cause the blooms to collapse. It may be controlled by consistent treatment with a fungicide, such as Captan, Dithane or Zineb. Spray applications should be made during the blooming season in order that the flowers may be covered. The ground around the plants should be covered heavily as a further precaution. For detailed information in *Azalea Diseases,* see page 72.

Brown Patch on lawns may be effectively controlled by Tersan 75 or Terraclor 75.

Camellia Die-back is the most serious disease the Camellia encounters. The disease is most destructive on young growth, but also attacks older wood, sometimes even the roots. To control, prune to live green wood, and burn all dead twigs and branches. Spray with 50% Captan, Phaltan or Bordeaux mixture. The entire plant should be kept well covered with the spray until the disease is checked. As an extra precaution after treating diseased plants, dip pruning shears in household disinfectant or kerosene and wash hands well with soap. For further description and treatment of Camellia Diseases, see page 77.

Chlorosis, or yellowing of leaves of some plants, turf, ornamental shrubs and trees, is usually caused by *insufficient acidity* of the soil or by *lack of iron*. Continual leaching of the soil by highly chlorinated city water requires replacement of essential minerals. Quick-acting mineral chelates and iron chelates have been found to be most effective in preventing and correcting chlorosis. They are preparations of trace elements and iron sulphate combined with chelating agents of organic acids which keep iron and other minerals in soluble form for plant to absorb as needed. They may be applied on the soil or sprayed on the foliage using extreme care to follow manufacturer's instructions. When chlorosis is caused by insufficient acidity of the soil, a simple treatment is the generous spraying of plant and ground with a solution of one cup of cider vinegar to one gallon of water.

Conifer Blight is a browning foliage fungus which attacks Arizona Cypress, Junipers, Arborvitae and native Cedars. Spray with Zineb, Ferbam or Bordeaux as soon as new growth starts in the spring and repeat four or five times at ten day intervals.

Damping-off, the rotting of seedlings at soil level, is a fungus disease that seems to attack all types of plants. It can be controlled by seed treatment with Arasan 75, Captan or Terraclor; by soil sterilization; and by avoiding excessive moisture. When sterilization of the soil is considered necessary to control *root rot* of young plants and other plant diseases, a good fungicide may be sprinkled around the most susceptible plants, either working or watering it into the soil. Plants and vegetables subject to various diseases, should never be planted a second time in the same soil unless it has been fumigated. *New* beds may be disinfected by applying Vapam or Permitrim.

Lily Diseases: Botrytis Blight is a fungus disease producing reddish-brown spots on foliage. It may be controlled by spraying with Fermate as soon as the disease appears, and at regular intervals thereafter. *All* infected leaves should be removed and destroyed. Plants should be properly spaced to allow full circulation of air. The disease particularly menaces the Madonna Lily, while Croft and other Easter lily types are moderately susceptible.

Mosaic is a virus lily disease which causes the varied symptoms of light green, mottled foliage, twisted leaves and deformed flowers. The best protection is to secure disease-free bulbs, having high resistance to mosaic, and to destroy any plant showing disease symptoms.

Mildew: This powdery white fungus causes leaves and shoots to become stunted, and often results in loss of foliage and flowers. Best results are attained when dusting sulphur (or a chemical product containing sulphur), is dusted on moist foliage early in the morning. Crapemyrtle, Roses, Chrysanthemums and Phlox are foremost among the plants affected.

Plant Rot affects Delphiniums and other plants, which rot off at the ground. In advanced stages nothing can be done except destroy the plants. If discovered soon enough, it may sometimes be controlled by drenching the ground with corrosive sublimate (mercuric acid), using one tablet to one quart of water. (Caution: Dissolve in a non-metallic container.)

Rose Diseases: Blackspot and *mildew* are effectively controlled by *all-purpose* rose sprays and dusts. Fine dusting sulphur, Fermate and Phaltan are recommended. *Canker* and *die-back* may be controlled by cutting back to encourage new growth. (See Rose Pest Control, page 83.)

Rust: Symptoms of this fungus disease are rusty brown patches (spores) on leaves, stems and buds, which appear on a wide variety of plants. Snapdragons, Hollyhocks, Chrysanthemums and Violets are particularly susceptible to rust. Dusting with fine sulphur, after first wetting the foliage, or spraying with wettable sulphur, will check the disease. Parzate and Fermate are also recommended for rust.

PESTS

There are, mainly, two types of insect pests, commonly known as *chewing* and *sucking* insects. For *general over-all insect control,* Chlordane is recommended. For insects which attack vegetables, the best *general insecticides* are Rotenone or Pyrethrum extracts, in preparations combined with Piperonyl.

The usefulness of DDT as a garden insecticide has been proven, and it promises to rid our gardens of many troublesome pests. However, it must be used with caution, as it damages bees and other useful insects which are necessary for pollination. Caution: DDT should not be sprayed on *open* flowers, such as Roses and Gladiolus, or used on vegetables and fruits which are to be eaten within two months.

The *chewing* group of insects includes caterpillars, worms, beetles, rose bugs and all other insects which eat the flowers, leaves and fruit. These pests must be killed by *stomach poisons,* which are applied to cover the foliage. Calcium arsenate and Dieldrin are recommended when used according to directions.

The *sucking* group includes aphids, scale, plant lice, chinch bugs, red spider, lace bugs, iris borers, mealy bugs, thrips, white flies, tarnished plant bugs, leaf hoppers, rollers and borers. Sucking insects damage plants by sucking the juices, causing leaves to curl, flowers to die and growing twigs to droop and wither. They are all controlled by *contact insecticides* which cover the insects and stop their breathing pores. Rotenone, a deadly, slow-acting insecticide, is largely used for these pests, often combined in sprays or dust with Nicotine, Sulphur, Pyrethrum, Fermate or DDT.

There are a number of *migratory* insects, which include ants, cut worms, sowbugs (pillbugs), grasshoppers, earwigs, slugs and snails. Snarol, a metaldehyde-arsenical meal, has proved effective when used on infested areas. As a further preventive, when transplanting young plants, dust the soil surface with 5 per cent Chlordane dust.

Nematodes are small eel worms which feed inside the root fibers and set up an irritation, producing root-knots and causing the plant to become stunted and wilted. They may be prevented by working a small amount of sugar into the soil before planting, or destroyed by working sugar around plants, watering lightly, followed thirty minutes later by heavy watering. Lightly infected plants may also be treated with Nemagon. Severely infected plants must be lifted and burned. Soil should be treated with Vapam or DDT, both highly effective. In this area fig trees and all members of the gardenia family are especially susceptible to attack by nematodes.

Stalk borers often infest Zinnias, Dahlias, and other plants with pithy centers, causing the plants to suddenly wilt or break off close to the ground. A solution of Pyrethrum should be sprayed or squirted into wounds with a small syringe.

Thrips on Gladiolus foliage should be thoroughly dusted with a 3 per cent DDT powder or sprayed with a wettable 50 per cent DDT. When storing corms, treat with DDT, Naphthalene flakes, or dip in Lysol or Mercuric Chloride solution. Old and infested foliage should be burned. For control of thrips on other plants, use strong sprays of Nicotine, Pyrethrum or Rotenone once a week.

Red Spider is more or less immune to most insect poisons. The most effective treatments are Aramite, Kelthane and Tedion. Phlox, Violets, Ivy, Azaleas, Boxwood and other evergreens are susceptible to red spider.

Camellia beetles, which eat succulent young foliage, may be controlled by spraying with Malathion 50.

White flies usually feed upon waxy leaved plants (Cape Jasmine) and privet hedges, causing the leaves to have a sooty black appearance on top and scale underneath. The best known remedies are 10% DDT and Lead Arsenate.

Ants: The worst offense of ants is in spreading aphids. For quick riddance, place one-eighth teaspoonful of 50 per cent wettable Chlordane powder on top of each nest, and wash the insecticide down into the ant galleries with water from the hose at low pressure, or from a sprinkling can without a nozzle. (Caution: This treatment may kill plants whose roots are in the ant nest.)

Scale insects are protected by a scale-like crust while they suck the juices from plants and evergreens, including Camellias and Azaleas. They are best controlled in winter by the use of dormant sprays, in summer by sprays with a Nicotine, Pyrethrum or Rotenone base.

Fruit tree worms are controlled by spraying as soon as the petals shed with Malathion 50.

Worms frequently attack *cannas* and eat the young leaves. Occasional spraying with *Arsenate of Lead* solution (1 tablespoonful to 1 gallon of water) will usually rid the plants of these pests. Care should be taken to spray close to the leaves so that the mixture will penetrate the crevices.

WEED CONTROL

Weeds may be controlled by various preventive measures. Use only barnyard fertilizer that is *well rotted,* seasoned and *free of weed seed.* Apply *mulches* to prevent the sprouting of seed and discourage the growth of weeds. Light cultivation destroys most young weeds, but complete eradication by *hand* digging is often necessary to remove deep roots and runners. Chemical weed killers should be used with extreme caution, as they may harm lawn and plants but are useful for removing weeds from walks, driveways and terraces.

Poison ivy, easily identified by its three-parted leaves, can be killed by using Ammate, which also kills *Poison oak* and *Poison sumac.*

Plant Nomenclature

If you have knowledge, let others light their candles by it.
—Fuller

Very early in the history of horticulture, botanists and scientists found it necessary to name plants in the universal language—Latin. Since then, in plant nomenclature, or name classification, the Latin name has been common currency amongst all civilized peoples and serves as an international equivalent of many popular or common names in different countries. There is only one valid botanical name for a particular plant, while common names vary so greatly that they are unreliable.

Inasmuch as most gardening literature, nursery and seed catalogs use botanical names, gardeners should learn how these names were derived in order to understand and use them intelligently. The true scientific name is infinitely more than a mere label, and may tell much concerning the structure, associated interests, and life history of the plant to which it is applied. The complete botanical name should always be used, as an accurate identification, when ordering nursery stock, as the use of common names by the customer and technical names by the nursery causes confusion and errors.

Each botanical name consists of two parts. For example, the name of the Madonna Lily is Lilium candidum. The first part is the *generic,* or family name, and is shared by all other true lilies. The second part is the particular *species,* or individual name. This system of binomial nomenclature was introduced by the famous botanist, Carolus Linnaeus in 1753.

The *generic* name may include some characteristic feature of the genus—as oxalis, which is from the Greek word meaning acid, and refers to the taste of the leaves. Generic names often commemorate the name of some botanist, such as lobelia, which recalls the scientist Mathew Lobel, and as dahlia which perpetuates the name of Dr. Andreas Dahl.

Specific names may also serve as distinguishing labels which commemorate plant collectors, botanists, and others, as Berberis wilsonae, Salvia greggi, and so on. As a general rule, capital letters are only used when a proper name furnishes the root for the plant name: examples are Bougainvillea, named for Governor Bougainville and Camellia, named for Joseph Kamel, both discoverers of the respective plants. Species names, such as vanhouttei and hamiltoni, refer to the person who introduced this particular species of the plant.

Individual names often designate the color of the flower, as—Alba, white; lactiflora, milk white; flava, yellow; aurea, golden; azurea, blue; rubra, red; rosea, rose; coccinea, scarlet; purpurea, purple; virens, green; niger, black. By adding the prefix atro, which means dark, atrovirens becomes dark green; atropurpurea, dark purple, and so on.

Frequently the name indicates some characteristic feature of the flower or foliage which distinguishes it. For example: amabilis, lovely; pulcherrima, most beautiful; splendens, showy; gracilis, graceful; pudica, bashful; pumila, dwarf; and grandiflora, large, grand.

Specific adjectival names are often indicative of the plants' habitat, or where they prefer to grow, as—canadensis, of Canada; virginica, of Virginia; sinensis, of China; japonica, of Japan; alpina, alpine regions; hispanica, from Spain; orientalis, eastern, or oriental; occidentalis, western; saxatil, rock loving, and so on.

There are a variety of names to denote the degree of hairiness of foliage and stem, as: mollis, soft hair; aristata, bearded; farinosa, mealy; ciliata, long hair; lanata, wooly hair; tomentosa, fine hair, and so on.

As examples of the application of some of the descriptive terms, Salvia azurea grandiflora is a blue large-flowered sage; myosotis palustris semperflorens indicates a particular forget-me-not which loves a moist location and is always in bloom.

In this day of new hybrids and modern plant development, gardeners should familiarize themselves with botanical names as an essential preparation for real gardening. Named varieties of plants should be tagged with permanent labels. Gardeners who keep a written record of their working year may make a chart showing the location of different varieties. By doing so, their appreciation of the plants they grow will increase considerably. The following reference books are suggested to enable the gardener to acquire sufficient practical knowledge and pronunciation of botanical names.

STANDARDIZED PLANT NAMES—American Joint Committee on Horticultural Nomenclature

PRONUNCIATION OF PLANT NAMES—Garden Club of America

HOW PLANTS GET THEIR NAMES—L. H. Bailey

BULBS, TUBERS AND RHIZOMES

B—Bulbs
T—Tubers
R—Rhizomes

While many flowers may be planted at varying times with success, this is especially true of bulbs. Some varieties do better if planted during certain definite months but many may be put in the ground at various times and at frequent intervals for a succession of bloom. They seem to have a life cycle which completes itself regardless of time or season.

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
ACHIMENES, T *Achimines*	White, Pink, Blue, Lavender	Nov.-Dec.	1″		Grown from tubers and divisions. Tender. Semi-shade. Same culture as Gloxinias. Shallow rooting. May be left in same pots for several years. Summer blooming. Thrives in sphagnum moss baskets.
AGAPANTHUS, B (LILY-OF-THE-NILE) *Agapanthus Orientalis* *Agapanthus alba*	Blue White	Oct.-Feb.	2″	12″	Grown from bulbs and bulblets. Half loam and half peat. Sun or partial shade. Water freely. Excellent near edge of pool. Blooms in May and June. Very beautiful. Also grown from seeds. Plant high. Fertilize after blooming and again in the early spring.
ALLIUM, B *Allium Neopolitanum grandiflora*	White	Sept.-Mar.	2″	6″	Grown from bulbs. Sun. Sandy loam. Excellent for cutting. Same culture as Grape-Hyacinths. New varieties come in shades of pink, yellow and blue. Blooms all summer. Garlic family.
ALSTROEMERIA, T (PERUVIAN LILY) *Alstroemeria auraniiaca*	Orange, Yellow	Oct.-May	6″	8″	Grown from tubers and seeds. Half-hardy, semi-tropical. Light soil. Excellent for cutting. Requires winter mulch. Azalea-like blossoms in June and July.
AMARCRINUM, B *Amarcrinum Howardi*	Shell-Pink	Oct.-May	2″	18″	Culture same as Agapanthus. Blooms periodically during summer.
AMARYLLIS, B *Amaryllis*	White thru Red	Nov.-Feb.		12″	Grown from bulbs, bulblets and seeds. Any rich garden soil. Sun or semi-sun. Blooms April-May. Plant high, about one-fourth out of soil. Feed after blooming and again in the fall. Keep mulched. Sequoia and Dutch hybrids.
ANEMONE, B *Anemone St. Brigid*	Blue, Scarlet, White	Oct.-Dec.	4″	6″	Grown from bulbs. Light loam on sand base. Semi-shade or sun. Requires moisture. Blooms early spring.
ANTHURIUM, B (FLAMINGO FLOWER) *Anthurium Scherzerianum*	Coral	Oct.-Dec.	2″		Potting mixture should contain shredded sphagnum moss as humus. Semi-shade. Water from bottom of pot. Ample water needed while budding and flowering. Blooms March-June.
ASPIDISTRA *Aspidistra*	Green or variegated foliage	Any time	2″	8″	Grown from divisions and roots. Will withstand much heat and poor soil. Semi-shade or shade. Acid tolerant. Leaves last well when cut. Grown in old gardens as borders or used in urns.
BANANA, ROSE-FLOWERED *Musa rosacea*	Vivid Pink-Lavender	Nov.-Dec.		2′	Rich, loamy soil, well drained. Propagated by suckers. Exotic flower stalk. Good patio plant. Protect from wind.
BEGONIA, FIBROUS ROOTED *Begonia semperflorens*	White, Pink, Red	Feb.-May	2″	12″	Grown from seeds or roots. Single and double varieties. Pot early indoors in well-drained rich soil. May be placed outdoors for summer bloom.
BLACKBERRY LILY, R *Pardanthus (Belamcanda)*	Yellow with Black spots	Aug.-Mar.	2″	12″	Grown from roots, seeds and divisions. Any soil. Sun. Naturalizes easily. Blooms June and July. Flowers followed by ornamental black seed clusters which may be used in arrangements.
BLUE-EYED GRASS, B *Sisyrinchium*	Blue	Any time	Just cover	3″	Grown from fibrous roots. Naturalizes. Sandy loam. Succession of bloom during spring and early summer.
BUTTERFLY LILY, R *Hedychium coronarium*	White	Feb.-Mar.	2″	15″	Grown from divisions. Part shade. Give generous amount of fertilizer. Fragrant clusters of flowers resemble butterflies. Blooms late summer and fall.
CALADIUM, B *Caladium bicolor*	Variegated foliage Red, White, Pink, Green	Mar.-May	2″	12″	Semi-shade. Mildly acid soil. Popular as bedding plants. Lift and store in the fall in dry peat moss.

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
CALLA LILY, R *Zantedeschia aethiopica* Var. ELLIOTTIANA (Corm)	White Yellow, with spotted foliage	Sept.	2″	6–12″	Grown from roots or corms. Loose, rich soil, leaf mold. Partial shade. Water freely. Must be protected against cold. Blooms March-May. New varieties include Jumbo, Evergreen Baby callas and Godfrey's White which is most prolific bloomer. Dwarf pink variety may be grown in pots.
CAMASSIA, B *Camassia scilloides* *(wild hyacinth)*	Pale Blue, White	Sept.-Oct.	6″	6″	Grown from bulbs and seeds. Hardy. Naturalizes. Good for mass planting. Semi-shade or sun. Good garden loam. Blooms April and May.
CANNA, R *Canna*	Various	Feb.-April	3″	18-24″	Grown from divisions and seeds. Good garden soil. Sun or partial shade. Water freely. Good for color masses. Blooms May-November. Many lovely hybrids of low and medium height. Some varieties have mottled flowers.
CHLIDANTHUS, B *Chlidanthus fragrans*	Yellow	Aug.-April	3″	5″	Plant with neck above soil. Sun. Flowers resemble miniature amaryllis. Bulbs should be lifted and stored. Blooms spring.
CHINQUAPIN, WATER (root) *Nelumbo lutea*	Pale Yellow	Any time			Grown from divisions or nut-like fruits. Native. Prefers still water. Huge flowers 10 inches or more across, pads 1 to 2 feet across. Blooms summer.
CHIONODOXA, B (GLORY-OF-THE-SNOW)	Blue, White, Pink	Sept.	2–3″	3–4″	Grown from offsets or seeds. Sun or partial shade. Naturalizes. Star-shaped flowers. Most effective when planted in large clumps. Blooms March and April.
CLIVIA, B *Clivia*	Yellow, Apricot, Orange	Oct.-Dec.	4″	10″	Grown from divisions and seeds. Potting mixture of sand, humus and bone meal with charcoal for drainage. Occasional feedings of liquid manure. Outdoors in summer in shady location, then brought to cool but protected porch to bloom in Feb. and March.
CRINUM, B *Crinum*	Pink, White, Wine	Nov.-Mar.	6″	12–24″	Grown from bulbs and offsets. Any rich garden soil. Sun or partial shade. Water freely. Blooms March-December. Beautiful named varieties may now be secured. Plant bulb high on mound of sand. Feed after blooming and again in the fall with mixture of old manure, superphosphate and Ferti-loam.
DAFFODIL, B *Narcissus pseudonarcissus*	White, Yellow	Oct.-Dec.	4″	6″	Grown from bulbs and bulblets. Any rich garden soil, sandy best. Sun or partial shade. Some varieties naturalize. Blooms February-March. See special article on Narcissus (page 89).
DAHLIA, T *Dahlia*	Various	Feb.-Mar.	2″	2–3′	Grown from seeds and divisions. Single varieties valuable for cutting. Blooms June-November. See special article on Dahlias (page 95). Miniature hybrid types excellent for bedding.
DAYLILY (root) *Hemerocallis*	Shades of Orange, Lemon, Red, Pink	Oct.-Mar.	1″	18″	Grown from roots and divisions. Also from proliferations (plantlets) which sometimes develop on the flower stem. Any soil. Sun or partial shade. Blooms April-July. Free bloomer. Hardy. See special article on Daylilies (page 91).
DIETES, B (SOUTH AFRICAN IRIS) *Moraea iridioides*	White with orange or yellow throat	Sept.	1″	4″	Hardy. Morning sun. Average garden soil. Blooms during summer. Reflowers on same bloom stalk.
EUCHARIS, B (AMAZON LILY) *Eucharis grandiflora*	White	Nov. to Jan.	4″	10″	Culture same as Clivia. Large clusters of exquisite star-shaped flowers. Blooms Jan.-May. Plant neck of bulb above soil. Excellent in pots.
GALTONIA, B (SUMMER HYACINTH) *Galtonia candicans*	White	Mar.	6″	7–8″	Grown from bulbs and seeds. Hardy. Fragrant. Culture same as gladiolus. Will produce a succession of blooms if flowers are kept cut as they fade. Blooms midsummer.
GINGER, HIDDEN, R *Curcuma petiolata*	Pink, Yellow	Mar.	2″	18″	Grown from tuberous roots. Feed in growing season. Keep moist year round. Partial shade.
GINGER LILY, R (KAHILI GINGER) *Hedychium gardnerianum*	Yellow, Scarlet Tipped	Feb.-Mar.	4–5″	18″	Grown from divisions. Larger than Butterfly lilies. Rich, loamy soil. Morning sun. Exotic flowers. Ample water while growing. Blooms summer and fall.

BULBS, TUBERS AND RHIZOMES

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
GINGER, SHELL, R *Alpinia speciosa*	Pink	Feb.-May	2″	15″	Pink buds opening to white flowers with yellow lip, red striped. Fragrant. Grown from rhizomes and divisions. Large tropical plants. Rich loamy soil. Abundant water. Summer blooming.
GLADIOLUS, B *Gladiolus*	Various	Feb.-Mar. July-Sept.	3–5″	6″	Grown from bulbs and bulblets. Any rich garden soil, sandy best. Sun or partial shade. Water freely. Easily grown. More lovely in groups than rows. Blooms April-June, October and November. Plant every two weeks.
BABY GLADIOLUS (Dwarf type)			1″	3″	See special article on Gladiolus (page 93). Gladiolus Tristus fragrant variety.
GLORIOSA, T (CLIMBING LILY) *Gloriosa rothschildiana* *Gloriosa superba*	Scarlet margined with yellow	Feb.-Mar.	2″		Grown from tubers. Plant horizontally. Full sun. Rich, moist soil. Hardy along Gulf coast. Exotic blooms excellent for cutting. Tubers may be stored like dahlias. Summer blooming.
GLOXINIA, T *Gloxinia*	Red, Purple, White	Feb.-Mar.	1″	10″	Grown from tubers, seeds and leaves. Peaty, sandy soil. Humid atmosphere. Shade. Ample water while growing. Recommended for greenhouse.
GRAPE-HYACINTH, B *Muscari*	Blue, White	Oct.-Jan.	2″	6″	Grown from bulbs and bulblets. Good garden soil. Sun or partial shade. Blooms March. Naturalizes. Useful for edging and for ground cover.
GUERNSEY LILY, B *Nerine sarniensis*	Coral, Red	Oct.-Mar.	Just below surface	12″	Grown from bulbs. Any soil. Sun or shade. Very beautiful. Divide every 2 or 3 years. Naturalizes. Fertilize with superphosphate worked in and watered in, July or August. Blooms Sept.
HABRANTHUS, B *Habranthus brachyandrus* *Habranthus robustus*	Pink to Maroon Shell-Pink	Oct.	3–4″	10″	Good drainage. Sun or partial shade. Flowers resemble zephyranthes. Same culture as amaryllis. Plant in groups. Summer blooming.
HAEMANTHUS, B (BLOOD LILY) *Haemanthus katherinae* *Haemanthus multiflora*	Red	Jan.-Mar.	4″	10″	Slightly acid soil containing leafmold. Partial shade. Plant bulb high, half out of soil. Culture same as Clivia. Blooms late summer and fall. Tops die down in winter. Bulbs need winter rest without water.
HYACINTHS, B *Hyacinthus*	All colors	Nov.-Dec.	3–5″	5″	Grown from bulbs. Rich soil, preferably sandy. Water freely while developing. Withhold while blooming. Bulbs should be lifted after leaves turn brown. Blooms February-April. Several varieties. Roman hyacinths precede Dutch varieties. Plant in sandy loam with bone meal as fertilizer. For water culture, keep in cool, dark place until growth starts, then expose to light.
IRIS, ALGERIAN (WINTER), R *Iris unguicularis (stylosa)*	White, Lavender thru Purple	March	1″	12″	Grown from divisions. Good garden soil. Sun or shade. Water freely. Blooms December-February.
IRIS, BEARDED, R	Wide color range	Aug.-Feb.	1″	12″	Grown from divisions. Alkaline soil. Sun. Good drainage. Blooms March, April.
IRIS, DUTCH, B	Blue, Yellow, White, Wine-Red	Sept.- Oct.-Nov.	3″	4–5″	Light well drained soil. Excellent for cutting. Blooms April and May. Cut when color shows at tip, stand in water until open. See Iris, (Page 91).
IRIS, DWARF, R *Iris pumila*	White thru Purple	Aug.-Feb.	1″	8″	Grown from rhizomes and divisions. Any garden soil. Sun or partial shade. Water freely. Blooms February-March.
IRIS, EVANSIA, R (CRESTED IRIS) *Iris cristata*	Blue, White	May to Sept.	Just cover	4″	Shade loving. Acid tolerant. Plant in Azalea soil mixture. Good for bordering azaleas. Resemble miniature spray orchids. Bloom Feb. and Mar.
Iris tectorum (ROOF IRIS)	Lavender, Blue	July to Sept.			Grown from seeds. Hardy. Dwarf. Linear crested. Blooms April.
IRIS, JAPANESE, R *Iris kaempferi*	White thru Purple	Aug.-Feb.	1″	12″	Grown from roots, seeds and divisions. Soil rich in humus. Sun or shade. Blooms May-June. See Iris, (Page 92).

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
IRIS, LOUISIANA, R	White, Pink, Red, Purple, Yellow	Sept. to Nov.	1–2″	8″	Grown from divisions and seed. Soil requires leaf mold. Keep mulched. Water freely. Many lovely hybrids. Shade from afternoon sun. Blooms April-May.
IRIS, NATIVE, R (FLAG) *Iris hexagona*	White, Purple	May-Nov.	1″	18″	Grown from divisions. Any moist soil. Sun or shade. Good in rock gardens and around pools. Blooms March, April.
IRIS, RETICULATA, B *Iris reticulata*	Violet, Purple	Oct. to Jan.	4″	4″	Grown from seeds and bulbs. Dwarf variety about 8 inches high. Sun, good drainage. Naturalizes. Fragrant. Good companion planting for narcissus. Blooms February.
IRIS, SIBERIAN, R *Iris sibirica*	Blue, Purple, White	Sept.-Nov.	1″	12″	Grown from roots, seeds and divisions. Heavy, moist soil. Water freely. Sun. Blooms early spring. Leave in clumps undisturbed.
IRIS, SPURIA, R *Iris spuria*	White, Yellow, Blue, Lavender, Bronze, Purple and Bicolors	Oct.-Nov.	1–2″	2′	Moist, heavy soil with abundance of leafmold. Sun, good drainage. Does not bloom until second season. Narrow petals. Excellent for cutting. Blooms April to June.
ISMENE (PERUVIAN DAFFODIL), B *Hymenocallis*	White	Feb.-Mar.	4″	18″	Grown from bulbs. Any soil. Sun or partial shade. Water freely. Very fragrant. Blooms May and June.
IXIA, B	Various	Oct.-Dec.	1″	4″	Grown from bulbs. Sandy soil. Sun. Rare. Worth trying. Blooms early spring.
JACK-IN-THE-PULPIT, B *Arisaema triphyllum*	Mottled, Brown, Green	Oct.-Dec.	2″	6″	Grown from bulbs. Soil rich in humus. Water freely. Shade. Blooms early spring.
JACOBEAN LILY, B *Sprekelia formosissima*	Scarlet	May	2″	5″	Same culture as Amaryllis. Flowers resemble butterflies. Plant shallow. Fertilize with bonemeal and superphosphate. Blooms June. May also be grown in pots.
JONQUIL, B *Narcissus jonquilla*	Yellow	Oct.-Dec.	3″	5″	Grown from bulbs. Light, sandy soil. Sun or partial shade. Naturalizes easily. Blooms March. (See special article, page 89).
KNIPHOFIA (root) (*Red Hot Poker Plant*)	Red, Yellow	Jan. to Mar.	Just cover	6″	Grown from divisions and seed. Formerly called Tritoma. Full sun. Light garden soil. Plant in clumps. Blooms summer.
LACHENALIA, B (CAPE COWSLIP)	White, Red, Yellow	Oct.	½″	2″	Grown from bulbs and seeds. Same culture as Clivias. Need moisture while growing, but keep on dry side during summer months. Will grow in same pots for years. Use liquid manure. Blooms Dec. and Jan.
LAPEIROUSIA, B	Rose, White	Jan.-Mar.	2″	6″	Dwarf plants, flowers resemble freesias. Naturalizers. Sheltered position. Mulch in winter. Light porous soil. Blooms summer and fall.
LIRIOPE (root) (LILY TURF) *Liriope muscari*	Purple	Oct.-Dec.	1½″	4″	Grown from divisions. Acid tolerant. Sun or shade. Flowers resemble Grape-Hyacinths. Ideal as border plant or ground cover. Excellent for cutting. Blooms summer and fall.
Liriope spicata	Pale lilac				
LILY, CENTIFOLIUM, B *Lilium centifolium*	White	Sept.	2½″	10″	Semi-shade. Plant in clumps of 3 or 5. Hybrid of Regal Lily. Same culture as Creole Lily. Blooms May. Olympic hybrids most popular.
LILY, GOLDBAND, B *Lilium auratum*	White with Gold band	Oct.-Feb.	6″	12″	Grown from bulbs. Well drained soil, rich in humus. Semi-sun. Water freely. Blooms July-August. Stem rooting.
LILY, LONGIFLORUM, B					Grown from bulbs. Well drained, light soil, rich in humus. Use sand and bonemeal under bulbs when planting. Sunny location. When growth begins, water freely. Bulbs multiply readily. Bulblets may be removed from mother bulb, resetting immediately. Blooms April, May.
var. ACE	White				
var. EASTER	White	Oct.-Feb.	6″	10–12″	
var. CREOLE	White	Sept.	4–6″		
var. CROFT	White	Sept.	4–6″		
var. ESTATE	White	Sept.	4–6″		
LILY, MADONNA, B *Lilium candidum*	White	Oct.-Feb.	6″	12″	Grown from bulbs. Loose, rich, well drained soil. Plenty of moisture. Partial shade. Blooms April. Basal rooting.
LILY, PHILIPPINE, B *Lilium philippinese formosanum*	White with rose tints	Sept.-Oct.	8″		Grown from bulbs or seeds. Plant in sun with ground cover, away from other lilies. Mulch during summer. Wilson hybrid strain most satisfactory. Blooms late summer.

BULBS, TUBERS AND RHIZOMES

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
LILY, REGAL, B *Lilium regale*	Ivory-White shaded Pink White with Yellow throat	Oct.-Feb.	6″	10″	Best from bulbs. Good, well drained soil rich in humus. Blooms April-May. Very beautiful. Gaining in popularity. Stem rooting.
LILY, SPECIOSUM, B *Lilium speciosum* Var. RUBRUM Var. ALBUM	 Pale Pink with crimson spots White	Oct.-Feb.	6″	12″	From bulbs. Soil rich in humus, well drained. Water freely. Sun or partial shade. Blooms June-July. Stem rooting.
LILY, TENUIFOLIUM, B (CORAL LILY) *Lilium tenuifolium*	Scarlet	Oct.	4″	10″	Grown from bulbs and seeds. Sun. Hardy. Stem-rooting. Recurved petals, fern-like foliage. Excellent for cutting. Early blooming. Dwarf type. Basal rooting.
LILY, TIGER, B *Lilium tigrinum*	Orange-Brown spotted	Oct.-Feb.	6″	8″	Grown from bulbs and bulblets. Any good garden soil. Sun or partial shade. Water sparingly. Showy. Blooms May-June. Stem-rooting.
LILY, TURK'S-CAP, B *Lilium superbum*	Yellow to Scarlet spotted	Oct.	9″	10″	Soil rich in humus. Summer blooming. Basal rooting.
LILY, UMBELLATUM, B (GOLDEN CHALICE) *Lilium umbellatum*	Yellow, Red, Deep Copper	Oct.	6″	10″	Sun. Stem-rooting. Free flowering. Early blooming.
LILY-OF-THE-VALLEY, R *Convallaria*	White	Nov.-Dec.	2″	1″	Pips may be forced in water or damp moss for early indoor bloom. Fragrant.
LYCORIS, B *Lycoris aurea* *Lycoris radiata*	 Yellow Red	Apr.-Aug.	Tips showing	6–8″	Sun and shade. Bulbs multiply if not disturbed. Any soil fortified with bonemeal. Blooms appear without foliage in the fall. Feed during winter growth.
MARICA (WALKING IRIS) *Neomarica gracilis*	White with Purple markings	Any Time	1″	8″	Shade-loving. Acid tolerant. Naturalizes. Blooms July. Grown from divisions.
MILLA, B (TRITELEIA) *Milla uniflora*	White, edged with Blue	Oct.-Dec.	1″	6″	Shade. Light sandy soil. Fragrant. Star-shaped flowers on six inch stems. Blooms early spring.
MONTBRETIA, B *Tritonia*	Orange-Red	Oct.-Feb.	1″	6″	Grown from bulbs and bulblets. Any good garden soil. Water sparingly. Naturalizes. Sun or shade. Blooms June-August. Fine for cutting.
NARCISSUS, B *Narcissus*	White, Yellow	Oct.-Jan.	3″	6″	Grown from bulbs and bulblets. Any rich garden soil, sandy best. Sun or partial shade. Water freely. Blooms about 70 days after planting. See special article on Narcissus, (page 89).
OXALIS, B *Oxalis*	Pink, White, Yellow	Any Month	1″	8″	Grown from bulbs and bulblets. Any soil. Sun or shade. Naturalizes. Suitable for borders and rock gardens. Watch for Red Spider. Blooms Jan.-June.
RAIN LILY, B *Cooperia*	White	Nov.-Feb.	2″	6″	Grown from bulbs and bulblets. Any soil. Sun or shade. Water freely. Naturalizes easily. Blooms July-September after rains.
RANUNCULUS, B *Ranunculus*	Various	Sept. to Dec.	1½″	4–5″	Well-drained soil. Bulbs may be soaked overnight in water. Plant prongs down. Excellent for cutting. Plant for succession of bloom. Winter and spring blooming.
SANSEVIERIA (root) (SNAKE PLANT) *Sansevieria zeylanica*	Variegated Foliage Small white flower	Any time	1″	8″	Grown from leaf cuttings and divisions. Requires little sun. Does best in heavy soil with bonemeal. Must be pot-bound to bloom.
SNOWFLAKE, B *Leucojum aestivum*	White	Oct.-Dec.	2″	6″	Grown from bulbs. Any garden loam. Sun or partial shade. Free bloomer. Naturalizes easily. Blooms February-March.

COMMON NAME *Botanical Name*	Color	When to Plant	Depth to Cover	Space Apart	COMMENTS
SPARAXIS (corm) (HARLEQUIN FLOWER)	Yellow to Flame	Nov.	2″	3–4″	Well-drained, sandy loam. Sun. Same culture as Ixias. Excellent for cutting. Spring blooming.
SPATHIPHYLLUM, R *Spathiphyllum clevelandi*	White	Feb.	2″		Grown from root divisions in pots. Very decorative. Commonly called White Anthurium.
SPIDER LILY, B *Hymenocallis*	White	Oct.-Mar.	5″	18″	Grown from bulbs and bulblets. Any well drained soil. Sun or shade. Water freely. The wild lily of this region. Blooms June-August.
SQUILL, B *Scilla*	Blue	Nov.-Feb.	2″	6″	Grown from bulbs. Sandy loam. Partial shade. Plant in masses. Blooms March.
STAR OF BETHLEHEM, B *Ornithogalum umbellatum*	White	Sept.-Oct.	2–3″	3–4″	Average, well-drained soil. Sun.
STRELITZIA, (BIRD-OF-PARADISE) *Strelitzia reginae*	Blue and Orange	Sept.-Oct.	4″	12″	Grown from seeds, suckers and root-stalks. Potting mixture same as Clivia. Sunny garden location in summer, protection during winter. Feed occasionally in summer with liquid manure. Winter blooming.
TIGRIDIA, B (SHELL FLOWER) *Tigridia*	Variegated Scarlet, Yellow, Orange	Feb.-Mar.	3″	6″	Grown from seeds, divisions and bulbs. Hot sunny location. Same culture as Gladiolus. Beautiful Iris-like flowers. Ample water at blooming time. Blooms July to frost.
TUBEROSE (SINGLE AND DOUBLE), T *Polianthes tuberosa*	White	Mar.	2″	8″	Grown from tubers. Any soil. Full sun. Water freely. Very fragrant. Blooms June-September.
TULBAGHIA, B (SOCIETY GARLIC) *Tulbaghia violacea* (dwarf) *Tulbaghia fragrans*	Orchid White	Nov.-Mar.	Just cover	6″	Sun or shade. Almost continuous bloomer. Plant in groups in rich, well-drained soil. Excellent for cutting. Summer blooming.
TULIP, B *Tulipa*	Various	Dec.	6″	6″	Grown from bulbs. Sandy soil, plenty of humus. Pinch of bonemeal, superphosphate under bulb when planting. Sun or partial shade. Blooms March-April. Darwin and Breeder types do best in this area. Should be refrigerated from 3 to 6 weeks before planting.
WATER-HYACINTH, R *Eichhornia*	Lavender	Any time			Fine for pools. Blooms May-August. Multiplies rapidly. Beautiful.
WATERLILY, T *Nymphaea*	Blue, Pink, White, Yellow, Red	Any time			Plant 6-18 inches under water, 2-3 feet apart. Blooms May-November. Fragrant. Day and night-blooming varieties. See page 95.
WATERPOPPY (root) *Hydrocleis nymphoides*	Yellow	Any time			For ponds, pools and aquariums. Grown from divisions. Blooms May-August. Resembles California poppies.
WATSONIA, B *Watsonia*	Various	Sept. to Nov.	3″	5″	Culture same as Gladiolus. Fertilize with bonemeal. Naturalizes. Excellent for cutting. Summer blooming.
YUCCA (SPANISH DAGGER), R *Yucca aloifolia*	White	Any month	6″	3–4′	Evergreen. Showy spikes of bell-shaped flowers. Plant in small groups for effect.
YUCCA, RED FLOWERED *Hesperaloe parviflora*	Coral Red	Any month		2′	Not a true yucca. May be grown from seed. Sun. Native. May be used in hot dry locations.
ZEPHYR LILY, B (FAIRY or RAIN LILY) *Zephyranthes ajax* *Zephyranthes candida* *Zephyranthes citrina* *Zephyranthes grandiflora*	Yellow White Gold Pink	Nov.-Feb.	2″	4–6″	Grown from bulbs and bulblets. Any soil. Sun or shade. Water freely. Naturalizes. Blooms May-September. Especially beautiful. Effective for massed planting.

FLOWERING SHRUBS AND TREES

S—Shrubs
T—Trees
D—Deciduous
E—Evergreens

In this climate an expert or professional gardener can successfully move almost any plant at any time during the twelve months. In the following chart, it has been thought wisest, however, to name those months considered safest for the amateur. Unless special requirements are mentioned the plants listed do well in either sun or shade and all are now successfully grown in Houston gardens.

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME		COMMENTS
				To Plant	Of Blooming	
ABELIA, S E *Abelia grandiflora*	Pinkish white	4–6′	3–4′	Nov.-Mar.	May-Sept.	Good in groups. Valuable for hedge, planted one foot apart. Sun. Fragrant glossy foliage.
AGARITA, S E *Mahonia trifoliolata*	Yellow	3–4′	3–6′	Nov.-Mar.	March	Handsome. Native. Likes dry soil. Lovely in Spanish garden. Fruit makes good jelly.
ALMOND, FLOWERING, S D *Prunus glandulosa (Amygdalus)*	White, Pink	3–5′	3′	Nov.-Mar.	Mar.-April	Best in full sun. Good in groups.
ALTHEA, SHRUB, S D *Hibiscus syriacus*	Lavender, Rose, White	8′	4′	Nov.-Mar.	June-Sept.	Good as specimen plant, in group or hedge. Free blooming.
ANAQUA, T E *Ehretia anacua*	White	30′	30′	Nov.	Mar.-Apr.	Flowers small and profuse followed by orange fruit. Hardy tree which should be used more.
ANDROMEDA, S E (LILY-OF-THE-VALLEY TREE) *Andromeda japonica* *Pieris japonica*	White	3–15′	6′	Oct.-Nov.	Feb.-Mar.	Semi-shade. Acid soil. Good drainage. Dainty flowers, beautiful foliage. Keep mulched.
ANGEL'S TRUMPET, S D *Datura arborea*	White	6–12′	5′	Nov.-Mar.	June-Oct.	Full sun. Tender. If frozen back will come out from roots. Easily grown from divisions. Best used as a specimen tree. Drought resistant. Attractive double variety.
APPLE, T D *Malus sylvestris*	Pink	10–12′	12′	Nov.-Mar.	March	Southern varieties advised. Flowers exquisite.
ARBUTUS UNEDO, T E (STRAWBERRY TREE)	White, Red fruit	8–15′		Feb.	Sept.-Dec.	Propagated by cuttings or seed. Average soil. Use as specimen tree or in shrubbery border. Sun or partial shade.
ARDISIA, S E *Ardisia crenulata*	White, Red Berries	2–3′		Nov.-Mar.		Shade. Acid soil. Often planted in tubs. Useful for foundation planting.
AUCUBA, S E and D *Aucuba japonica* *var. variegata (Gold Dust Plant)*	Red Berries	4–5′ 3–5′		Nov.-Mar.		Semi-shade. Acid soil. Ample water. Good specimen shrub. Var. variegata has yellow spotted foliage.
AZALEA, S D and E *Azalea*	Yellow, Lavender, Pink, White, Red, Purple	1–8′	1–3′	Any month	Jan.-April	Best in semi-shade. Exceedingly beautiful. Requires moisture, leafmold and mulch. Acid soil. See Azaleas, page 65.
BARBADOS CHERRY, S E *Malpighia glabra*	Pink	2–3′	3′	Nov.-Mar.	May-Oct.	Beautiful red berries while blooming. Effective in groups or foundation planting.
BEARGRASS *Sotol Texana*	White	1–2′	2′	Nov.-Mar.	May	Perennial. Likes dry, sandy, alkaline soil. Graceful foliage.
BEAUTYBERRY, S D *Callicarpa americana*	Pink, Lilac, Red, White	3–5′	3′	Nov.-Mar.	May	Beautiful purple berries in late summer.
BOTTLEBRUSH, S E *Callistemon*	Red	4′	4′	Feb.-Mar.	April-May	Beautiful. Water sparingly. Excellent as specimen plant. Difficult to transplant.
BOUVARDIA, S E *Bouvardia*	White	2–3′	2′	March	Sept.-Jan.	Shade. Loamy soil. Tender. Often grown in pots. Fragrant. Waxy flowers. Winter blooming.
BRUNFELSIA, S E (LADY-OF-THE-NIGHT) *Brunfelsia americana*	White	4–5′	4′	Mar.	Summer	Good soil. Partial shade. Uniform moisture. Tender. Fragrant.
(YESTERDAY-TODAY-AND TOMORROW) *Brunfelsia calycina*	Dark purple fading to white			Mar.-June		

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME		COMMENTS
				To Plant	Of Blooming	
BUSHCLOVER, S D *Lespedeza formosa*	Purple	3–4′	3–4′	Oct.-Mar.	May-Aug.	Delicate foliage and sprays of blossom. Contrasts well with other shrubs.
BUTTERFLYBUSH, S D *Buddleia alternifolia*	Lavender	6′	3–4′	Nov.-Mar.	May-Oct.	Graceful, spreading. Lilac-like, sweet-scented bloom. Attracts butterflies.
BUTTERFLYBUSH, S E *Buddleia davidi*	Lavender	5–6′	6′	Nov.-Mar.	May-Oct.	Very showy. Good as specimen or in groups. Suitable for cutting. Blue-green leaves four inches long.
BUTTONBUSH, COMMON, S D *Cephalanthus occidentalis*	White	6–18′	4′	Oct.-Mar.	June-Sept.	Handsome foliage and flowers. Likes extremely moist soil.
CAMELLIA, S E *Camellia japonica* *Camellia sasanqua*	White thru Red	6–10′ 6–10′	4′ 3′	Nov.-Mar. Nov.-Mar.	Feb.-Mar. Dec.-Jan.	Very beautiful. Best in semi-shade. Both varieties do best in acid soil. Japonica varieties good as specimen plants. See camellias, page 73.
CARYOPTERIS, S D (BLUE SPIREA) *Caryopteris incana*	Pale Blue	2–5′	2′	Nov.-Mar.	July to frost	Attracts bees and butterflies. Full sun. Tender. Powder blue fringed flowers, grown in clusters.
CASSIA, S D *Cassia alata* (Candle Tree) *Cassia beareana* *Cassia corymbosa* (Flowery Senna)	Yellow Yellow Yellow	3–8′ 6–10′ 6–8′	6′ 6′ 4′	Nov.-Apr. Nov.-Apr. Nov.-Apr.	Aug.-Oct. Oct.-Dec. Aug.-Oct.	Light sandy loam. Sun and water. If killed by freeze, worth replanting. Fast growing. Free flowering.
CATALPA, T D *Catalpa speciosa*	White	30′	20′	Nov.-Mar.	April-May	Symmetrical. Handsome foliage and flowers.
CHASTE TREE, S D *Vitex agnus-castus* *Vitex negundo incisa*	Lavender Lavender	10′ 6′	6′ 6′	Nov.-Mar. Nov.-Mar.	May-July May-July	Lovely. Aromatic foliage. Foliage very beautiful. Free bloomer. Both varieties combine effectively with Crapemyrtle.
CHENILLE PLANT, S E *Acalypha hispida*	Red-Purple	6–15′	10′	Feb.	July-Sept.	Tender. Cylindrical flowers. Large heart-shaped leaves.
CHINABERRY, T D *Melia azedarach* *Melia azedarach umbraculiformis*	Lavender Lavender	25′ 25′	20′ 20′	Nov.-Mar. Nov.-Mar.	Mar.-April Mar.-April	Ornamental foliage. The Umbrella China. Good for quick shade.
CHINESE HAT PLANT, *Holmskioldia sanguinea*	Rust-Red	8′	6–9′	Any time	Continuous	Sun. Rich soil. Long clusters of flowers. Good for tropical effect. Plant in tub. Protect in winter.
CIGARETTE PLANT, S E *Cuphea micropetala*	Red and Yellow	5–6′	3′	Nov.-Mar.	Summer and Fall	Sun. Average soil. Prune after blooming to insure almost continuous blooms.
CLETHRA, S D *Clethra alnifolia*	White, Pink	3–6′	3′	Nov.-Mar.	Aug.-Oct.	Neat growing. Fragrant. Appropriate for Colonial garden.
CONFEDERATE ROSE, S D *Hibiscus mutabilis*	White thru Crimson	8′	6′	Nov.-Mar.	June-Oct.	Striking feature—flowers white at morning, pink at noon, crimson at night, then fall. New flowers each day.
CORALBEAN, S D *Erythrina herbacea*	Scarlet	2′	2′	Nov.-Mar.	April	Effective. Long handsome sprays of slender flowers. Showy red seeds in dark brown pods. Native.
CORALTREE, T D *Erythrina crista-galli*	Coral	6′	5′	Nov.-Mar.	May-Aug.	Semi-hardy. Sunny location. Showy clusters of large pea-shaped flowers.
COTONEASTER, S E *Cotoneaster*	White, Pink	2–6′	3–4′	Nov.-Mar.	Mar.-April	Good in groups, foundation planting and rockeries. Shade. Well drained soil. Red berries.
CRABAPPLE (SOUTHERN), T D *Malus angustifolia*	Pink	10–20′	10′	Dec.-Mar.	April	Handsome. Delightfully fragrant.
CRABAPPLE, FLOWERING, S D *Malus ioensis* (Pyrus Texana)	Pink	10–20′	10′	Dec.-Mar.	April	Lovely clusters. Fragrant.
CRAPEMYRTLE, S or T D *Lagerstroemia indica*	White thru Red Lavender-Purple	6–15′	4–6′	Nov.-Mar.	June-Sept.	Hardy. Prune annually for heavy growth. Clipping of old flowerheads encourages repeated blooming. Overlook hybrids especially desirable. Near East is pale pink.

FLOWERING SHRUBS AND TREES

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME To Plant	TIME Of Blooming	COMMENTS
CUPHEA, S E *Cuphea hyssopifolia*	Lavender	1′	1′	Feb.-April	Constant bloomer	Dainty. Good for borders. Part shade.
CURRANT, INDIAN (CORALBERRY), S D *Symphoricarpos orbiculatus*	White	5–7′	3′	Nov.-April	April	Red berries. Excellent for border. Native plant.
DAPHNE, ROSE, S E *Daphne cneorum*	Pink	1′	2′	Dec.-Jan.	Mar.-April	Fragrant. Exquisite coloring.
DAPHNE, WINTER, S E *Daphne odora*	Rose-Purple	3–5′	2′	Dec.-Jan.	Feb.-Mar.	Fragrant. Partial shade.
DEUTZIA, S D *Deutzia gracilis* *Deutzia rosea*	White Pink	2–5′	3–4′	Nov.-Mar.	May	Upright growth. Requires sun. Good for spring bloom. Water freely.
DOGWOOD, T D *Cornus florida*	White	8–15′	6–8′	Dec.-Mar.	March	Native. Very striking in bloom. Best in semi-shade. Grows in any good soil, slightly acid.
DURANTA, S E (GOLDEN DEWDROP) *Duranta repens*	Blue, Yellow Berries	6–15′	3–5′	Nov. to Feb.	May	Average soil. Full sun. Berries follow flowers. Tender but recovers quickly. May be trimmed as a small tree or used as a hedge. Grown from seeds and cuttings.
EBONY, TEXAS, T E *Pithecellobium flexicaule*	Green-White	20′	30′	Oct.	Mar.-Apr.	Small, dense, black-green foliage. Very thorny. Fragrant. Flowers frequently.
ELDERBERRY, S D *Sambucus canadensis*	White	6–10′	4–5′	Nov.-Mar.	May-Aug.	Fragrant flowers followed by conspicuous dark purplish berries. Likes plenty of room, and moisture.
ELAEAGNUS, S E *Elaeagnus pungens*	Silver-White Orange-Red fruit	8–10′	6′	Nov.	Fall	Sun or shade. Hardy. Foliage silver underneath. Fast growing. Loose spreading habit. Several varieties. Fragrant.
ERANTHEMUM, S *Daedalacanthus nervosus*	Blue	3′	2–3′	Mar.-April	Nov.-Dec.	Very tender. Coarse foliage but flowers beautiful. Shade.
EUCALYPTUS, T E *Eucalyptus undulata* *Eucalyptus pulverulenta* (Silver Dollar)	White White	40′ 16′	20′	Feb.-Mar.	April March	Tender until established. Rapid growing. Plant closely for very high screen. Beautiful gray-green round leaves effective in arrangements.
FALSE-INDIGO, S D *Amorpha paniculata*	Purple	6′	4′	Nov.-Mar.	April	Likes moist soil.
FRANKLINIA, T D *Gordonia alatamaha*	White	15–25′	15′	Feb.	Aug.-Nov.	Well drained acid soil, well supplied with humus. Hardy. Magnolia-like flowers.
FRINGETREE, T D (GRANNY-GRAYBEARD) *Chionanthus virginica*	White	6–8′	4′	Nov.-Mar.	March	One of the most beautiful of our native trees. Dark green foliage and fragile panicles of fragrant flowers.
GORSE (WHIN), S E *Ulex europaeus*	Yellow	3–4′	3–4′	Nov.-Mar.	April	Very showy. Thorny. Sandy. slightly acid soil. Difficult to transplant.
GRAPEFRUIT, T E *Citrus grandis*	White Yellow fruit	6–10′	10′	Dec.-Jan.	April	Good, sandy loam. Protect in freezing weather.
GUAVA, PINEAPPLE, S E *Feijoa sellowiana*	White, Red stamens	6 15′	4′	Nov.-Mar.	Mar.-April	Showy. Gray-green foliage. Excellent for jelly. Several varieties.
GUAVA, STRAWBERRY, S E *Psidium cattleianum*	White Purple fruit	4–6′	4′	Nov.-Feb.	April	Any soil with good drainage. Tender. An attractive ornamental bearing edible fruits.
HAW, MAY, T D *Crataegus monogyna opaca*	White Red fruit	8–12′			Feb.-Mar.	Native. Fruit makes delicious jelly. Some varieties have pink double flowers.
HAW, RED (HAWTHORN), T D *Crataegus mollis*	White	6–12′	6–8′	Nov.-Mar.	Mar.-April	Native. Beautifully shaped. Highly colored foliage and berries in fall.

COMMON NAME, *Botanical Name*	Color	Approx. Height	Space Apart	TIME		COMMENTS
				To Plant	Of Blooming	
HAW, RUSTY BLACK, T D *Viburnum rufidulum*	White Black fruit	8–15′	6–10′	Nov.-Mar.	Mar.-Apr.	Native. Handsome. Glossy foliage. Brilliant autumn coloring.
HEATHER, MEDITERRANEAN, S E *Erica mediterranea*	Lavender	2′	2′	Nov.-Mar.	March	Likes peat or leaf mold. Shady place.
HIBISCUS, S D *Hibiscus rosa-sinensis* *Hibiscus grandiflorus*	White thru Red Yellow, Orange White, Pink	2–6′	3–4′	Mar.-May.	May-Dec.	Tender. Full sun. Water freely. Beautiful. Combines well with evergreens. Many doubled, ruffled varieties. Effective in tubs. Good for mass planting. Does well on coast.
HOLLY, T E *Ilex opaca* *Ilex decidua*, T D	White Greenish	15–40′ 15′	15′ 6–10′	Dec.-Feb. Dec.-Mar.	Feb.	Best in sandy soil. Sun or shade. Very showy red berries all winter. Other varieties such as Dahoon and Japanese also do well here.
HOLLY, CHINESE, T E *Ilex cornuta burfordi*	Red Berries	10–15′	4′	Dec.-Mar.		Sun or shade. Acid soil. Large berries. May be adapted to many landscape purposes. May be sheared. Rank growing. Subject to white fly.
HONEYSUCKLE, BUSH, S D *Lonicera fragrantissima*	Cream	8–10′	4–6′	Nov.-April	Dec.-Feb.	Very fragrant. Excellent as specimen, hedge or screen.
HONEYSUCKLE, MORROW, S D *Lonicera morrowi*	White turning Yellow	6–8′	4′	Nov.-April	March	Handsome red berries in summer.
HONEYSUCKLE, TATARIAN, S D *Lonicera tatarica*	White thru rosy pink	4–6′	4′	Nov.-April	March	Very showy. Commonest of bush honeysuckles. Rank grower.
HORSECHESTNUT, DWARF, S D (BUCKEYE) *Aesculus pavia*	Red, White	4–6′	4′	Nov.-Mar.	April	Handsome foliage. Long spikes of showy flowers.
HUCKLEBERRY, S or T E *Vaccinium arboreum*	White	6–12′	4–6′	Dec.-Mar.	April	Handsome. Native. Clusters of flowers like Lilies-of-the-valley.
HUISACHE, T D *Acacia farnesiana*	Yellow	8–15′	15′	Dec.-Mar.	March	Any soil. Hardy. Fragrant. Especially appropriate in Spanish garden. Loves sun.
HYDRANGEA, S D *Hydrangea*	Blue, Pink, White	2–4′	3′	Oct.-April	May-June	Several types. Good for foundation and border planting. Soil half humus and half loam. Acidity changes pink flowers to blue. Blueing powder available. Water freely. Best in partial shade, preferably north exposure.
INDIAN HAWTHORN, S E *Raphiolepis indica*	Pinkish White	2–3′	3′	Nov.-Mar.	April-May	Handsome. Flower clusters resemble apple blossoms. Large blue berries in summer.
JACARANDA, S or T D *Jacaranda mimosifolia*	Blue	20–30′	15′	Mar.-May		Mimosa-type foliage. A sheltered south location may reward with fragrant blue blossoms. Tender.
JACOBINIA, SCARLET, S E *Jacobinia coccinea*	Scarlet	2–3′	2′	Feb.-April	June-Sept.	Evergreen. Desirable in an old-fashioned garden. Semi-shade. Tender.
JASMINE, S E *Jasminum floridum*	Yellow	3–5′	3–4′	Nov.-April	Mar.-Nov.	Flowers freely. Trailing foilage. Rank grower.
JASMINE, CAPE, S E *Gardenia florida*	White	4–6′	4′	Nov.-April	May-June	Heavy black loam. Dark green, glossy leaves. Very fragrant. Everblooming type most popular. Susceptible to white fly and nematodes.
JASMINE, DAYBLOOMING, S D *Cestrum diurnum*	Cream	3–5′	3′	Mar.-May	July-Oct.	Easy to grow. Tender. Excellent as specimen. Beautiful berries in fall, shades lavender to purple.
JASMINE, DWARF CAPE, S E *Gardenia radicans*	White	2′	2′	Nov.-April	May-July	Double. Fragrant. Very effective for low planting.
JASMINE, GRAND DUKE, S E *Jasminum sambac*	White	4′	2′	Mar.-May	June-Sept.	Very double-flowered. Intensely fragrant. Foliage dark green and shining.
JASMINE, ITALIAN, S E *Jasminum humile*	Yellow	6–8′	4′	Nov.-April	May-Aug.	Dark green foliage. Free bloomer. Fragrant. One of the finest of bush jasmines.

FLOWERING SHRUBS AND TREES

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME		COMMENTS
				To Plant	Of Blooming	
JASMINE, NIGHTBLOOMING, S D *Cestrum nocturnum*	Greenish White	3–4′	3′	Mar.-May	July-Oct.	Flowers inconspicuous but delightfully fragrant at night. White berries in the fall.
JASMINE, PRIMROSE, S E *Jasminum primulinum*	Yellow	4–8′	4′	Nov.-April	Jan.-Feb.	Drooping, attractive foliage. Beautiful, golden yellow flowers.
JUJUBE (CHINESE DATE), T D *Zizyphus jujuba*	Greenish-Yellow	20′	10′	Nov.-Mar.	April	Valuable for fruit and foilage. Grows in poor, sandy soil. Alkali and heat tolerant. Planting of this should be encouraged.
KERRIA, S D *Kerria japonica*	Yellow	3′	3′	Nov.-April	Mar.-Sept.	Small, golden globes in great profusion. Border or individual specimens. Likes shade.
KUMQUAT, S E *Fortunella japonica*	White Orange fruit	3–6′	6′	Dec.-Jan.	May	Good, sandy loam soil. Prune for compact growth and increased fruit.
LANTANA, S D *Lantana*	Various	2–8′	2′	Mar.-May	April-Nov.	Easily grown. Likes sunny exposure. Rank grower, profuse bloomer, flowers in small clusters.
LAUREL, TEXAS MOUNTAIN, S or T E *Sophora secundiflora*	Blue, Lavender	4–8′	6′	Dec.-Mar.	March	Fragrant and ornamental. One of the loveliest blues in the garden. Bright red seeds. Likes alkaline soil, sun.
LAVENDER COTTON, S E *Santolina incana*	Yellow	1½–2′		Dec.-Mar.	June	Sun or partial shade. Aromatic silver-grey foliage. Cut back after blooming.
LEONOTIS, S E (LION'S TAIL) *Leonotis leonurus*	Orange-Red	4–6′	4′	Feb.	Sept.	Well drained soil. Grown from seeds and cuttings. Useful in shrubbery border when combined with Pyracantha.
LIGUSTRUM, AMUR RIVER PRIVET, S E *Ligustrum amurense*	White	4–10′	4′	Oct.-April	April	Hardy hedge plant, useful for tall screen, subject to white fly.
LIGUSTRUM, JAPANESE, S E *Ligustrum japonicum*	White	8–15′	4–6′	Oct.-May	May	Good as screen, hedge or individual specimen. Black berries in fall.
LIGUSTRUM, WAXLEAF, S E *Ligustrum lucidum*	White	6–12′	4–6′	Oct.-May	May	One of the handsomest of broad-leaved evergreens. Dark green glossy leaves. Dense clusters flowers. Excellent as hedge or screen.
LOCUST, BLACK, T D *Robinia pseudo-acacia*	White	10–30′	20′	Nov.-Mar.	April	Flowers very fragrant, resembling white wisteria. Robust. Good street tree.
LOQUAT, T E *Eriobotrya japonica*	Cream Yellow fruit	8–15′	6–10′	Nov.-Mar.	Nov.	Edible fruit. Beautiful large olive green foliage. Fragrant winter bloom. Fast grower.
MAGNOLIA, (SOUTHERN), T E *Magnolia grandiflora*	White	10–40′	10′	Dec.-Mar.	April-June	Likes humus. Native. Magnificent, large, fragrant flowers. Glossy ornamental foliage.
MAGNOLIA FUSCATA (BANANA SHRUB), S E *Michelia fuscata*	Cream	4–6′	4′	Nov.-Mar.	April-May	Sandy soil with humus. Fragrant. Profuse bloomer. Miniature blossoms.
MAGNOLIA, PINK S or T D *Magnolia soulangeana*	Pink	6–12′	6–10′	Dec.-Feb.	Jan.-Feb.	Very beautiful. Blooms before leaves appear. Hardy. Sandy soil with humus. Other varieties white, purple and red also lovely.
MAGNOLIA (STAR), D *Magnolia stellata*	White	6–10′	6′	Nov.-Dec.	Mar.-Apr.	White, small, star-shaped blossoms. Light green foliage. Flowers appear before leaves.
MAHONIA (OREGON GRAPE), S E *Mahonia aquifolium*	Yellow	3′	3′	Nov.-Mar.	Feb.-Mar.	Holly-leaved Barberry. Lovely winter foliage. Ornamental berries.
MESQUITE, T D *Prosopis iuliflora glandulosa*	Pale green	20′	20′	Dec.	Apr.-May	Will stand severe heat and drouth.

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME To Plant	TIME Of Blooming	COMMENTS
MEXICAN BUCKEYE, T D *Ungnadia speciosa*	Pink	12′	6′	Nov.-Feb.	March	Prefers sandy soil. Water sparingly. Fragrant, spectacular flowers.
MIMOSA, T D *Albizzia julibrissin*	Pink	12–15′	10′	Nov.-Mar.	May-June	Feathery foliage. Clusters of fragrant ball-shaped blossoms. Graceful, horizontal growth habit.
MOCKORANGE, S D *Philadelphus*	White	3–6′	4′	Nov.-April	April-May	Very decorative. Long sprays of white blossoms. Some varieties fragrant.
MORNING-GLORY TREE, S D *Ipomoea fistulosa*	Lavender	4–6′	4′	Mar.-April	June-Sept.	Coarse foliage but very effective with its clusters of large trumpet-shaped flowers. Easily grown from seed.
MYRTLE, TRUE, S E *Myrtus communis*	White	6′	4′	Nov.-Mar.	May-June	Aromatic. Small dark green, glossy leaves. Blue berries all winter.
NANDINA, S E (CHINESE "HEAVENLY" BAMBOO) *Nandina domestica*		4–5′	4′	Nov.-Mar.		Valued for beautiful red berries and foliage during winter months. Effective in groups.
OLEANDER, S E *Nerium*	White thru Red Yellow thru Orange	8–12′	5 6′	Nov.-April	Apr.-Sept.	Handsome flowering shrub. Fragrant. Suitable for hedge and mass planting or for single specimens. Easily grown from cuttings.
ORANGE, HARDY, T D *Citrus trifoliata*	White	6–10′	4′	Nov.-Mar.	April	Most defensive of all ornamental hedges. Beautiful as specimen. Do not plant near walk account of thorns.
ORANGE (LOUISIANA SWEET), T E *Citrus*	White	10–12′	8–10′	Nov.-Mar.	April	One of the best varieties here. Should be protected in freezing weather.
ORANGE, SATSUMA T E *Citrus nobilis unshiu*	White	8–10′	6′	Nov.-Mar.	April	Most reliable and productive of citrus fruits in this region. Sweet and delicious. Very ornamental.
ORCHID TREE, D *Bauhinia variegata*	White, Pink, Lavender	25′	15′	Any month	Mar.-April	Any soil. Tender. Semi-shade or sun. Ornamental specimen tree. Lovely orchid-shaped flowers.
PARKINSONIA (RATAMA), T D *Parkinsonia aculeata*	Yellow	12–15′	12′	Nov.-Mar.	April-Aug.	Drooping feathery foliage. With care small trees may be transplanted throughout the year.
PEACH, FLOWERING, T D *Amygdalus persica*	Pink, Red, White	6–10′	8–10′	Nov.-Mar.	March	Well drained soil. Showy double flowers. Fine for cutting.
PEACH, FRUITING, T D *Amygdalus persica*	Pink	10–15′	10–12′	Nov.-Mar.	March	Well drained soil. Angel and Honey varieties delicious—Mamie Ross, Carmen and Elberta also good. North exposure considered best.
PEACH, WILD (CHERRY LAUREL), T E *Laurocerasus caroliniana*	White	10–20′	6–10′	Nov.-April	March	One of our most beautiful native trees. Good for formal planting. Excellent for screens and hedges, also as specimen.
PEAR, T D *Pyrus*	White	10–15′	12′	Nov.-Mar.	March	Douglas, Pineapple, Garber, Kieffer recommended for fruit, flowers and early foliage. Kawakami evergreen, good espaliered—dwarf variety good in tubs.
PEARLBUSH, S D *Exochorda racemosa*	White	4–6′	4′	Nov.-April	Mar.-April	One of the showiest of the early spring flowering shrubs.
PENTAS, S E	Various	3′	18″	Aug.-Sept.	Year round	Sun or partial shade. Rich, deep soil. Excellent cut flowers.
PEPPERTREE, CALIFORNIA, T E *Schinus molle*		10–15′	10′	Feb.-April		Tender. Lacy, pungent foliage. Plant in protected spot.
PHOTINIA, S E *Photinia*	White	6–10′	4–6′	Nov.-Mar.	April	Valued for its beautiful foliage, colors changing throughout the year. Several species.
PITTOSPORUM, S E *Pittosporum Tobira*	Cream	4–8′	4–6′	Oct.-April	Mar.-April	One of our best evergreen shrubs. Excellent as specimen, in groups, or hedges. Luxuriant dark green foliage. Fragrant flowers. Also variegated species.
PLUM, FLOWERING, S D *Prunus triloba*	Pink	4–6′	4′	Nov.-Mar.	March	Fine for cutting.

FLOWERING SHRUBS AND TREES

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME		COMMENTS
				To Plant	Of Blooming	
PLUM, FRUITING, T D *Prunus*	White	8–12′	10′	Nov.-Mar.	March	Best on plum roots. Excelsior, Bruce and Methley are good varieties.
PLUM, PURPLELEAF, T D *Prunus cerasifera (pissardi)*	Pink	8–12′	6′	Nov.-April	March	Planted for ornamental reddish-purple foliage. Striking in groups.
PLUM, THUNDERBIRD, T D *Prunus cerasifera*	Pink	25′		Nov.-Mar.	March	Hardy. Leaves rich red, gradually turning darker red.
PLUM, WILD, T D *Prunus mexicana*	White	10–15′	10′	Nov.-Mar.	March	Most ornamental—like a Japanese etching in the garden with its black stems and exquisitely fragrant blossoms.
PLUMBAGO, S *Plumbago Alba* *Plumbago capensis*	White Blue	2–3′	2′	Feb.-Apr.	Mar.-Dec.	Semi-hardy. Sun or semi-shade. Long sprays. May be supported on trellis. Prolific bloomer. All summer.
PLUMBAGO, CREEPING *Ceratostigma plumbagonoides*	Blue	6′	12″	Nov.-April	Mar.-Dec.	Evergreen ground-cover. Deep blue flowers.
PLUMBAGO, S D *Plumbago rosea*	Rose	1½–2′	2′	Feb.-April	May-June	Blooms freely. Desirable for cutting. Not common here, but easily grown. Lovely shade of rose.
POINCIANA, (BIRD OF PARADISE), S D *Caesalpinia gilliesi*	Yellow	6–8′	4–6′	Nov.-April	May-Sept.	Clusters of yellow flowers with long crimson stamens. Likes dry sandy soil. Graceful, spreading. Lovely in Spanish garden.
POINSETTIA, S D *Euphorbia pulcherrima*	Red, Pink, White	4–8′	3′	Feb.-Aug.	Nov.-Dec.	Fertilize during summer. Pinch back to induce branching until October. Cut to ground in March, making cuttings of discarded material. Tender. Double varieties.
POMEGRANATE, DWARF, S D *Punica granatum nana*	Orange-Scarlet	2–4′	3′	Nov.-April	April-Oct.	Very ornamental. Suitable for borders. Effective in pots, inside or outdoors.
POMEGRANATE, FRUITING, S D *Punica granatum*	Orange-Scarlet	8–12′	6′	Nov.-April	April-Sept.	Attractive flowers. Large showy fruit, edible. Fast growing. P. floraplena, medium growth, double flowering, red, variegated creamy white, no fruit.
PYRACANTHA (FIRETHORN), S E *Pyracantha coccinea*	White Yellow to red berries	10–20′	4–6′	Nov.-Mar.	April	Excellent as specimen, group or hedge plant. May be espaliered. Must have sun to flower. Berries most ornamental.
QUINCE, JAPANESE FLOWERING, S D *Chaenomeles lagenaria*	Crimson, Pink, White	4–6′	4′	Nov.-April	Dec.-Mar.	Likes sun. Beautiful winter-blooming shrub. Fine for cutting. Good in groups. Excellent as specimen.
RAINTREE, GOLDEN, T D *Koelreuteria apiculata*	Yellow	20–30′		Feb.-Mar.	Sept.-Oct.	Hardy. Exotic seed pods excellent for dried arrangements.
REDBUD, T D *Cercis canadensis* *Cercis canadensis alba*	Purple, Pink White	12–15′	6–10′	Nov.-April	March	One of the most beautiful flowering native trees. Hardy. Also double-flowered form. Complements Formosa azaleas.
REDBUD, (DWARF), S D *Cercis chinensis*	Rosy-Purple	4–8′	4′	Nov.-April	March	Extremely ornamental. Prolific bloomer. Flowers large and more abundant than those of native variety.
ROCKROSE, S E *Cistus*	White, Rose	2–6′	3′	Feb.	Aug.-Sept.	Sun. Dry light soil. Will tolerate lime. Grown from seeds, cuttings and layers.
ROSE-ACACIA, S D *Robinia hispida*	Rose	6–8′	6′	Nov.-Mar.	May to June	When planting seeds soak overnight. Hardy. Any soil. Clusters of wisteria-like flowers. A handsome locust.
RICE-PAPER PLANT, S E *Tetrapanax papyriferus*	Greenish-white	8–18′	5′	Nov.	Dec.-Jan.	Sun or partial shade. Hardy. Flowers excellent for cutting. Dark green foliage resembles Castor bean.
SAGE, DESERT (SENISA), S E *Leucophyllum texanum*	Orchid	4–6′	4′	Nov.-Mar.	June-Sept.	Likes well drained soil. Tolerates prolonged drought. Blossoms profusely after rain. Can be induced to bloom by sprinkling. Beautiful grey-green foliage.

COMMON NAME *Botanical Name*	Color	Approx. Height	Space Apart	TIME To Plant	TIME Of Blooming	COMMENTS
SALT CEDAR, S D *Tamarix gallica*	Pink, White	8–15′	4–8′	Nov.-April	April-June	Does well near seashore. Grey-green feathery foliage. Cuttings root easily in moist sand.
SILVER-BELL TREE, T D *Halesia carolina*	White	15–20′	4′	Nov.	March-April	Sun or semi-shade. Acid or neutral soil. Good drainage. Flowers hang in small clusters.
SPIREA, ANTHONY WATERER, S D *Spiraea Bumalda, Anthony Waterer*	Crimson	2′	2′	Nov.-April	April-Sept.	Good for shrub border, mass planting and cutting. Profuse bloomer. Does best in partial shade.
SPIREA (BRIDALWREATH), S D *Spiraea prunifolia plena*	White	4-5′	3–4′	Nov.-April	Feb.-Mar.	An old garden favorite. Double flowers.
SPIREA, REEVES, S D (BRIDALWREATH) *Spiraea reevesiana*	White	3–5′	4′	Nov.-April	Mar.-April	Most satisfactory and free blooming of the Bridalwreaths. Both double and single. Excellent for cutting.
SPIREA, THUNBERG, S D *Spiraea thunbergi*	White	2–3′	3′	Nov.-April	Jan.-Feb.	Its graceful drooping sprays with delicate blossoms are an exquisite addition to the early shrub border.
SPIREA, VANHOUTTE, S D (BRIDALWREATH) *Spiraea vanhouttei*	White	4-5′	4′	Nov.-April	Mar.-April	One of the best known of the Spireas, but not advised as strongly as the Reeves for Southern planting.
ST. JOHN'S-WORT, S D *Hypericum*	Yellow	2–3′	2–3′	Nov.-April	May-Aug.	Neat shrub for border or foundation planting. Likes partial shade. Several varieties.
SUMAC, S D *Rhus copallina*	Greenish	6–10′	4′	Nov.-Mar.		Brilliant autumn foliage and berries. Non-poisonous variety. Will grow in sandy or rocky soil.
SWEET OLIVE, S E *Osmanthus fragrans*	White	6–20′	5′	Nov.-Mar.	Jan.-April	Sun or shade. Any soil. Good drainage. Fragrant.
SWEETSHRUB, S D *Calycanthus floridus*	Reddish Brown	3–6′	3′	Nov.-Mar.	April	Very fragrant. Rich well-drained soil. Ample moisture.
TEA PLANT, S E (CAMELLIA THEA) *Thea sinensis*	Cream	4-5′	3′	Nov. to Feb.	Oct.-Nov.	Hardy. Same culture as Camellias. Fragrant flower.
THRYALLIS, S E (YELLOW PLUMBAGO) *Thryallis glauca*	Yellow	3–5′	3′	Nov.-Mar.	Almost continuous	Good for mass or foundation planting. Stands pruning well. Recent introduction which has grown very popular.
TULIP TREE (TULIP POPLAR), T D *Liriodendron tulipifera*	Greenish Yellow	30–40′	25′	Mar.	April	Rapid growing. Magnificent lawn tree. Plant only small trees, balled and burlapped. Rich, moist soil.
TUNG OIL TREE, T E *Aleurites fordi*	White, Pink	25′	20′	Nov.-Feb.	March	Makes a good specimen tree. Hardy. Fast growing.
TURK'S CAP, S E *Malvaviscus grandiflorus*	Red, Pink	4–10′	3′	Sept. to March	Sept.-Dec.	Grown from cuttings. Any soil. Flowers suggest Turkish fezzes. Rapid grower. Tender. If frozen will come back from roots.
VIBURNUM, S E and D *Viburnum*	White	6–8′	4–6′	Nov.-Mar.	Feb.-Mar.	Most beautiful. Dark green leaves. Flowers in clusters—fragrant.
WEAVERS-BROOM, S D *Spartium junceum*	Yellow	6′	3–4′	Nov.-Mar.	April	A glorious sight in bloom.
WEIGELA, S D *Weigela*	Pink, Red, White	4′	3′	Nov.-Mar.	Mar.-April	Lovely spring flowering shrub. Likes east exposure. Clusters of exquisite blossoms. Some varieties bloom all summer.
WILD OLIVE (ANACAHUITA) *Cordia boissieri*	White	25′	30′	Nov.	April	Showy trumpet shaped flowers from April to October. Growing in popularity and importance.
WILLOW, FLOWERING, (DESERT), T D *Chilopsis linearis*	Lavender White	8-20′	8–15′	Nov.-Mar.	June-Aug.	One of the few hot weather flowering trees. Graceful drooping foliage. Orchid-like blossoms.
WILLOW, PUSSY, S D *Salix discolor*	Grey-Green	6–8′	4–6′	Nov.-Mar.	February	Grows from cuttings. Beautiful. Fine for cutting. Catkins easily forced in water indoors.
YAUPON, S or T E *Ilex vomitoria*		6–12′	4–6′	Dec.-Jan.	March	Brilliant red berries during winter months. Native. Useful as hedge or screen.

FLOWERING PLANTS GROWN FROM SEEDS

A—Annuals
B—Biennials
P—Perennials

So many factors govern the planting, germination and blooming periods of plants grown from seed that only approximate dates have been given in the following chart. Unless special soil or other requirements are necessary, reference to those needs has been omitted. For best results in growing plants from seed a reading of the article on Propagation (p. 114) is suggested, as it gives the factors considered by experts to be essential.

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
AGERATUM, A or P *Ageratum*	Blue, White	6–18″	8–12″	Mar.-Aug.	5-8 days	Apr.-Nov.	Grown also from divisions and cuttings. Tender. Good for bedding and cut flowers. Dwarf variety for edging.
ALYSSUM, SWEET, A *Alyssum maritimum*	White, Lavender	2–6″	6″	Oct.-Mar.	4-5 days	Dec.-May	Little Gem excellent border plant. Lilac Queen good variety. All fragrant.
AMARANTHUS, A *Amaranthus*	Crimson Foliage	2–3′	20″	Mar.-Apr.	15-20 days	June-Oct.	Sun. Half-hardy. Good border plant. Gives tropical effect.
ANCHUSA, A or P *Anchusa azurea (A.italica)* *Anchusa capensis* (CAPE FORGET-ME-NOT)	Blue Blue, White	2–4′ 18″	2′	Sept.-Nov.	20 days	Mar.-May	Grown also from cuttings. Full sun. Water sparingly. Good for cutting. Dropmore good tall variety.
ARCTOTIS, A *Arctotis grandis*	White and Lavender	24″	12″	Sept.-Mar.	10-12 days	Nov.-May	Best in sun. Flowers close late afternoon. Excellent for cutting.
BABYSBREATH, P *Gypsophila paniculata*	White	18″-2′	1′	Nov.-Mar.	20 days	Apr.-May	Grown also from roots. Sandy, well drained soil. Sun or partial shade. Good in perennial border. Excellent for cutting and drying.
BABYSBREATH, A *Gypsophila elegans*	White	24″	6″	Sept.-Feb.	10-15 days	Jan.-May	Best in full sun. Excellent for cutting. Muralis variety, pink, good for border. Beautiful.
BALLOON-FLOWER, P *Platycodon*	Blue, White	24″	12″	Feb.-Mar.	14 days	May-July	Sun or partial shade. Good in perennial border. Fine for cutting.
BALSAM, GARDEN, A *Impatiens balsamina*	Various	12–18″	6–8″	Mar.-Sept.	3-8 days	May-Nov.	Good in border. Sun or partial shade. Camellia-flowered best variety.
BALSAM, SULTAN, A *Impatiens sultani*	Rose, Salmon	18″	12″	Mar.-May	3-8 days	May-Oct.	Profuse bloomer. Best in border in partial shade.
BELLS-OF-IRELAND *Molucella laevis*	Green bracts	24″	12″	Early spring		Spring Summer	Best grown from plants. Prized for arrangements. Well drained soil. Full sun.
BLANKETFLOWER, A *Gaillardia*	Yellow thru Red	12–18″	12″	Oct.-Apr.	10-14 days	May-Oct.	Best in full sun. Excellent for cutting. Good for rural planting.
BLUEBELL, TEXAS, B *Eustoma*	Bluish purple	24″	12–18″	Sept.-Dec.	15-30 days	June-Aug.	Heavy lime soil. Best in full sun. Fine for cutting. Difficult to transplant. Good for rural planting.
BLUEBONNET, A *Lupinus subcarnosus (texensis)*	Blue	12″	8–12″	July-Jan.	5-10 days	Apr.-May	Light, well drained soil. Full sun. Good for cutting. Naturalizes. Mass rural planting suggested.
BOLTONIA, P *Boltonia asteroides*	White, pink	2–3′	30″	Mar.-Sept.		Aug.-Sept.	Grown also from divisions. Good border plant. Dwarf variety called Pinkray. Aster-like flowers. Profuse bloomer.
BOUNCING-BET, P *Saponaria officinalis*	Pink, White	2′	1′	Sept.-Mar.	20 days	May-Oct.	Grown also from root divisions. S. ocymoides excellent for rock garden.
BROWALLIA, A (AMETHYST) *Browallia Americana*	Blue, White	18″	6″	Mar.-Apr.	20 days	May-Aug.	Good for bedding and borders. Excellent for cutting and pot plants. Sun. Reseeds. Pinch plants back for more compact growth.
BUTTERFLYFLOWER, A *Schizanthus*	All colors	12–18″	6″	Sept.-Mar.	20 days	Apr.-May	Likes sandy soil. Partial shade. Exquisite. Fine for cutting.
BUTTERFLYWEED, P *Asclepias tuberosa*	Yellow and Orange	1–4′	1–2′	Sept.-Nov.	10 days	May-Sept.	Coarse growth. Native milkweed. Good for rural planting.

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
CALENDULA, A *Calendula*	Lemon thru orange	8-15″	12″	Sept.-Feb.	4-10 days	Nov.-May	Heavy loam. Full sun. Good for border, bedding and cutting.
CALLIOPSIS, A *Coreopsis tinctoria*	Yellow, Orange, Maroon	2-4′	6-15″	Feb.-Mar.	5-15 days	May-July	Sun or partial shade. Feathery foliage. Good for rural planting.
CANDYTUFT, A or P *Iberis*	White thru Red, Lavender	10-18″	6″	Sept.-Mar.	5-8 days	Nov.-May	Full sun. Useful for border and cutting. I. sempervirens good for ground cover. Many varieties. Free bloomer.
CANTERBURY BELLS, A or B *Campanula medium*	Bluish Purple White	18″	12″	Mar.-May	15 days	Apr.-May following yr.	Well drained soil. Sun or partial shade. Excellent for cutting. Ashes and copper sulphate prevent root and crown rot.
CASTOR-BEAN, A *Ricinus communis*	Bronze Foliage	5-10′	60″	Apr.	15 days		Excellent for quick tropical effects and temporary backgrounds and screens. Grown also from cuttings.
CERASTIUM (SNOW-IN-SUMMER), P *Cerastium tomentosum*	White	3-8″		Sept.-Nov.		Mar.-May	Sun. Grown from divisions and cuttings. Dry location. Good rock garden plant. Useful for edging or carpeting. Silvery foliage.
CHINA ASTER, A *Callistephus chinensis*	Various	6-18″	8″	Feb.-Mar.	12 days	May-June	Sun or partial shade. Fine for cutting. Good for bedding.
CHINESE FORGET-ME-NOT, A *Cynoglossum amabile*	Blue, White, Pink	18″	8″	Sept.-Nov.	10 days	Apr.-Aug.	Sun or shade. Border plant. Beautiful. Firmament, dark blue dwarf variety.
CHINESE LANTERN PLANT, P *Physalis francheti*	Whitish	12-18″	12″	Sept.-Mar.	10 days	June-Sept.	Light, well drained soil. Partial shade. Grown for ornamental orange seed pods, which may be dried.
CHRYSANTHEMUM, P *Chrysanthemum*	White, Pink, Lavender, Maroon, Yellow, Bronze	2-4′	12″	Feb.-Mar.	15 days	Oct.-Dec.	Full sun. Best grown from cuttings and divisions. Good for bedding and cutting in April and May. Blossoms in clusters or singly. Many types, shapes and sizes.
CLARKIA, A *Clarkia*	White thru Red	12″	6″	Mar.-Apr.	7 days	May-June	Full sun. Good for mass planting.
COCKSCOMB, A *Celosia argentea cristata* *Celosia argentea plumosa*	Red, Yellow	1-3′	8-12″	Mar.-Sept.	5-8 days	June-Dec.	Full sun. Best combined with evergreens. Do not plant with dainty flowers. May be dried.
COLEUS, A *Coleus*	Variegated Foliage	12-24″	12″	Feb.-May	20-25 days	Continuous	Easily propagated by cuttings and divisions. Tender. Sun or partial shade. Prized for brilliant ornamental foliage.
COLUMBINE, P *Aquilegia*	Various	18″	8-12″	Sept.-Mar.	15 days	Apr.-May of second year	Well drained, moist soil. Partial shade. Buy two-year-old plants for first season bloom.
COREOPSIS, P *Coreopsis grandiflora*	Yellow	2′	12-18″	Sept.-Feb.	10-12 days	May-July	Sun or partial shade. Also grown from divisions.
CORNFLOWER, A (BACHELOR'S BUTTON) *Centaurea cyanus*	Pink, Blue, Purple, White	3′	8-12″	Sept.-Feb.	10 days	Feb.-May	Full sun. Best combined with perennials. Excellent for cutting.
COSMOS, EARLY, A *Cosmos bipinnatus*	Crimson, Pink, Lavender, White	4-5′	12″	Feb.-Mar.	5-8 days	Apr.-July	Light soil. Full sun. Good in background planting. Combines well with shrubbery.
COSMOS, KLONDYKE, A *Cosmos sulphureus*	Orange	4-6′	2′	Apr.-June	5-8 days	July-Nov.	Good for cutting and as screen. Should be staked. Mandarin, double-flowered variety.
COSMOS, LATE, A *Cosmos bipinnatus*	Crimson, Pink, White	2-3′	6″	Apr.-Aug.	5-8 days	Aug.-Oct.	Best in sandy soil. Good for cutting. Feathery foliage.
DAHLIA, A or P *Dahlia*	All colors except Blue	4-6′	18″	Jan.-Feb.	10 days	June-Nov.	Sandy soil. Also grown from cuttings and divisions. Sun. Water freely. Should be staked. Disbud for specimens. Dwarf varieties recommended.

FLOWERING PLANTS GROWN FROM SEEDS

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
DAISY, AFRICAN GOLDEN, P *Dimorphotheca*	Cream to Orange	12–18″	12″	Sept.-Mar.	10-12 days	Nov.-June	Best in sun. Beautiful for display and cutting.
DAISY, ENGLISH, A *Bellis perennis*	White, Pink, Red	4–6″	6–8″	Sept.-Dec.	4-5 days	Jan.-Apr.	Sun or partial shade. Used for border and bedding.
DAISY, MICHAELMAS, P *Aster novi-belgi*	Lavender, White	3-5′	12–18″	Jan.-Mar.	15 days	Sept.-Dec.	Best from divisions. Fine for cutting. Many new hybrids.
DAISY, PAINTED, A *Chrysanthemum coccineum*	Various	12″	12″	Sept.-Mar.	8 days	Apr.-June	Sun or partial shade. Excellent for cutting. Plant in the bed or border.
DAISY, SHASTA, P *Chrysanthemum maximum*	White	1–2′	12–18″	Aug.-Sept.	10-15 days	May-Aug.	Well drained soil. Sun or partial shade. Also grown from divisions. Good for cutting and display.
DAISY, SWAN-RIVER, A *Brachycome iberidifolia*	Blue, White, Pink	12″	6″	Sept.-Mar.	8 days	Apr.-June	Blue variety very beautiful. Full sun.
DATURA, A *Datura Metel*	Lavender, White, Yellow	3–4′	24″	Feb.-Apr.	15 days	June-Sept.	Full sun. Tender. Grown also from cuttings. Decorative. Long trumpet-shaped flowers. Double varieties. (See Angel's Trumpet, page 136.).
DELPHINIUM, A or P *Delphinium*	Light to deep Blue Pink, White	1–2′	12″	Sept.-Nov.	10-15 days	Mar.-May	Best in sandy loam or leaf mold. Shade or sun. Excellent for cutting. Beautiful blue. Giant hybrids available in many colors.
FALSE-DRAGONHEAD, P (PHYSOSTEGIA) *Dracocephalum virginianum*	Lavender, Pink, White	3–4′	12″	Sept.-Dec.	15 days	June-Aug.	Best in sandy soil. Sun or partial shade. Water freely. Also grown from divisions. Good for border planting and cutting.
FEVERFEW, A *Chrysanthemum Parthenium*	White, Yellow	18″	12″	Feb.-Apr.	15-20 days	Apr.-Sept.	Sun or partial shade. Good for bedding, borders and cutting.
FLAX, A *Linum grandiflorum* *Linum alpinum*	Red Blue	1½′	9″	March	2 weeks, 8 days	June-July	Sun. Good garden soil. Hardy. Plant for succession of bloom. Dainty airy plant.
FORGET-ME-NOT, A or P *Myosotis palustris*	Blue	6–8″	10″	Oct.-Nov.	12-15 days	Apr.-Dec.	Partial shade. Rich loose soil. Water freely. Also grown from divisions. Excellent for edging, mass planting and rock gardens. Variety semperflorens blooms all summer.
FOUR-O'CLOCK, P *Mirabilis jalapa*	White, Yellow Red	3′	18–24″	Jan.-Dec.	5-10 days	May-Oct.	Grown also from roots. Fast spreading. Free blooming. Fragrant. Dwarf variety good for bedding.
GAYFEATHER, P *Liatris*	Lavender	2–3′	12″	Sept.-Mar.	20 days	July-Aug.	Dry for winter bouquets. Native wild flower.
GAZANIA, P *Gazania*	White, Yellow, Orange	1′		Oct.-Nov.		May-July	Sun. Propagated by divisions and cuttings. Daisy-like flowers close at night.
GERANIUM, P *Pelargonium, in variety*	White thru Red and Purple	1–2′	12″	Feb.-Mar.	15 days	Apr.-Oct. year following.	Sun or partial shade. Water sparingly. Best from cuttings, or plants. Capitatum is rose-scented. Also trailing and variegated types.
GERBERA, P (TRANSVAAL DAISY) *Gerbera jamesoni*	Various	1½′	12–15″			Apr.-Oct.	Sun. Easily grown from division of old established clumps in fall. Exquisite coloring. Excellent for cutting. Good border plant. See special article (page 98.)
GLOBE AMARANTH, A *Gomphrena globosa*	White thru deep Red	24″	12″	Feb.-May	10-12 days	May-Oct.	Best in sun. May be treated as Strawflower. Good for bedding and border.
GODETIA, A *Godetia*	Red, Pink, White	12″	6″	Sept.-Nov.	15 days	Mar.-May	Light, sandy soil. Partial shade. Excellent for cutting. Blooms best in crowded plantings.

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
GOLDENROD, P *Solidago*	Yellow	2-4′	15-18″	Sept.-Mar.	20 days	July-Sept.	Best in sun. Also grown from divisions. Good for rural plantings.
GOLDENTUFT, P (BASKET-OF-GOLD) *Alyssum saxatile*	Yellow	6″	6″	Sept.-Mar.	8 days	May-June	Variety Compactum good for crevices in terraces and pavements.
HOLLYHOCK, A or B *Althea rosea*	Yellow, White thru Red	4-6′	1-2′	Sept.-Dec.	15 days	May-July	Sun or partial shade. Well drained soil. Lovely against wall, fence or in a border. Annual varieties surer.
HONESTY, A (DOLLAR PLANT) *Lunaria annua*	Purple	18-30″	12″	July	21 days	April	Start seed in damp peat moss in shade. Transplant to rich soil in full sun. Shelter from north wind. Grown for silvery-white partitions of seed pods popular for dried arrangements.
IMMORTELLE, A *Xeranthemum annuum*	Various	3′	1′	March	5-15 days	May-July	Sandy soil. Sun. Flowers may be dried.
LACEFLOWER, BLUE, A *Didiscus or Trachymene caerulea*	Blue, White	18″	12″	Sept.-Nov.	10 days	Mar.-May	Full sun. Good in border. Fine for cutting.
LARKSPUR, A *Delphinium*	White, shades of Blue, Purple and Pink	2-3′	6″	Sept.-Jan.	15 days	Mar.-June	Full sun. Good for bedding, border and cutting.
LAVENDER, SWEET, P *Lavandula officinalis*	Lavender	1-2′	2′	Sept.-Mar.	20 days	May-July	Well drained soil. Sun or partial shade. Grown also from cuttings and divisions. Fragrant when dried.
LOBELIA, P (CARDINAL FLOWER) *Lobelia cardinalis*	Red	2-3′	12″	Feb.-Mar.-Sept.		Aug.-Sept.-Oct.	May be grown from seeds or root divisions. Grows best in moist, semi-shade.
LOBELIA, A *Lobelia Erinus*	Blue	4″	6″	Nov.-Feb.	10 days	Apr.-July	Sandy loam. Full sun. Good for bedding, edging.
LOVE-IN-A-MIST, A *Nigella damascena*	Blue, White	12″	6″	Mar.-Apr.	8 days	Apr.-May	Plant in the border. Lacelike flower and foliage. Good for cutting.
LYCHNIS (MALTESE CROSS), P *Lychnis chalcedonica*	Scarlet	24″	12″	Feb.	10-20 days	May-Sept.	Grown also from divisions. Sun. Hardy. Good border plant. Pink family.
LYTHRUM, P *Lythrum Salicaria, roseum superbum*	Rose	3-4″	24″	Sept.-Mar.		June-July	Good rich soil. Moist. Propagated by division. Worth trying.
MALLOW, P *Hibiscus Moscheutos*	White thru Red	4-6′	24″	Sept.-Mar.	15 days	June-Oct.	Moist soil. Sun or partial shade. Requires ample space. Good for shore planting. Very beautiful
MARIGOLD, AFRICAN, A *Tagetes erecta*	Lemon, Orange	3-4′	12″	Mar.-July	8 days	June-Nov.	Full sun. Good for the border and cutting.
MARIGOLD, FRENCH, A *Tagetes patula*	Yellow and Mahogany	12-18″	12″	Mar.-Aug.	8 days	June-Nov.	Full sun. Best for bedding. Colorful. Fine for cutting. T. Lucida sweet-scented.
MISTFLOWER, P *Eupatorium coelestinum*	Blue	24″	12″	Sept.-May	10 days	Aug.-Oct.	Prefers moist soil. Grown also from divisions. Sun or partial shade. Showy in the border. Good for cutting. E. ageratoides, white, good variety.
NASTURTIUM, A *Tropaeolum majus* *Tropaeolum minus*	Yellow to Mahogany	2-3′ 6-12″	10″ 6″	Feb.-Apr.	8 days	Apr.-June	Full sun. Flowers well in poor soil. Trailing variety left on ground produces long stems and more flowers. Dwarf and double varieties available.
PANSY, A *Viola tricolor*	Various	6″	6-8″	Aug.-Nov.	10-12 days	Nov.-Mar.	Rich, sandy loam and humus. Full sun. Excellent for bedding, edging and cutting.
PENSTEMON, A or P *Penstemon*	Various	2′	1′	Oct.-Dec.	10 days	Apr.-May	Light, sandy soil. Sun or partial shade. Some varieties native.
PERIWINKLE, A *Vinca rosea*	Pink, Lavender, White	15″	8-12″	Mar.-June	15 days	June-Nov.	Full sun. Excellent for mass planting and borders. Showy. Good for cutting.

FLOWERING PLANTS GROWN FROM SEEDS

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
PETUNIA, A *Petunia hybrida*	Various	12–18″	12″	Sept.-Mar.	6-8 days	Feb.-Nov.	Full sun or partial shade. Grown also from cuttings. Splendid for bedding, border and cutting. Fragrant. Double variety does best in window boxes. Profuse bloomers.
PHLOX, DRUMMOND, A *Phlox drummondi*	Various	12″	4–6″	Sept.-Jan.	15 days	Jan.-June	Full sun best. Hardy. One of the best bedding plants. Colorful and fragrant. Good for cutting.
PHLOX, LOUISIANA, P *Phlox divaricata*	Blue to mauve	8″	6″	Sept.-Oct.		Feb.-Mar.	Sun or semi-shade. Will tolerate acid soil. When planting, cover entire plant with soil, only leaving tip exposed, in order to make joints take root.
PHLOX, PERENNIAL, P *Phlox paniculata*	Various	18–24″	12–15″	Sept.-Feb.	10 days	May-Oct.	Well drained soil. Sun or partial shade. Best from divisions or roots. Good in groups in the border, foundation planting and for cutting. (See special article, p. 98).
PINKS (DIANTHUS), B *Dianthus chinensis*	Various	8–12″	12″	Sept.-Feb.	12 days	Nov.-June	Full sun best. Good for bedding and edging. Fine for cutting. Fragrant. Single and double. Grass Pink good variety.
POPPY, CALIFORNIA, A or P *Eschscholtzia californica*	Orange, Yellow, Pink thru Red	12″	6″	Oct.-Dec.	10-12 days	Feb.-May	Well drained sandy loam. Best in full sun. Glorious display in border or beds. Very difficult to transplant.
POPPY, ICELAND, A *Papaver nudicaule*	Yellow, Red, White	8–12″	6″	Oct.-Nov.	10-20 days	Apr.-May	Well drained sandy loam. Sun or partial shade. Best in border. Fernlike foliage. Exquisitely dainty blossoms.
POPPY, ORIENTAL, P *Papaver orientale*	Orange, Red, Flame	3′	2′	Sept.-Oct.		Apr.-May-June	Rich loam. Sun. Foliage dies to ground after blooming.
POPPY, SHIRLEY (CORN), A *Papaver rhoeas*	White thru Blood Red, Lavender	2–3′	6″	Oct.-Dec.	15 days	Mar.-May	Well drained sandy loam. Sun or partial shade. Best in border. Excellent for cutting. Showy in mass planting. Carnation, Peony and other varieties good.
PORTULACA, A *Portulaca*	All colors except Blue	4–6″	4–6″	Mar.-July	12-15 days	May-Oct.	Best in sandy soil. Full sun. Brilliant in borders and beds. Flowers close in afternoon.
QUEEN ANNE'S-LACE, A *Daucus Carota*	White	3-4′	12″	Sept.-Nov.	20 days	Apr.-May	Excellent for cutting. Recommended for rural gardens.
ROCKET, SWEET, A or P *Hesperis matronalis*	Lilac, Purple, White	1–2′	6″	Sept.-Mar.	10 days	Apr.-June	Light sandy soil. Sun or partial shade. Fragrant. Double form called gilly flower.
SALPIGLOSSIS, A *Salpiglossis*	Cream, Yellow, Blue, Purple, Brown	18″	6″	Sept.-Mar.	5 days	May-June	Light, sandy soil. Partial shade. Fine for cutting. Rich velvety texture.
SALVIA (BLUE SAGE), P *Salvia farinacea*	Blue	2–3′	1′	Sept.-Mar.	15 days	April-Dec.	Grown also from cuttings and divisions. Free bloomer. Good in border and for cutting.
SALVIA (SCARLET SAGE), A *Salvia splendens*	Red	2–3′	1′	Feb.-Mar.	10 days	May-Dec.	Prefers partial shade. Grown also from cuttings. Best alone or with shrubbery. Good for cutting.
SALVIA, P *Salvia greggi*	Crimson	2–3′	2′	Nov.-April	15 days	Apr.-Oct.	Likes well-drained soil. Open sunny location. Frequent watering. Dwarf variety Salmon Pygmy.
SCABIOSA, A *Scabiosa*	Various to brown-black	2–3′	1′	Sept.-Mar.	20 days	Mar.-June	Protect from afternoon sun. Good in border. Excellent for cutting.
SHRIMP PLANT, P *Beloperone guttata*	Red-Brown bracts	2–3′	24″			Apr.-Nov.	Grown also from divisions and cuttings. Continuous bloomer. Odd tubular flowers. Excellent for cutting.
SNAPDRAGON, A *Antirrhinum*	Various	1–3′	6″	Sept.-Feb.	15 days	Mar.-June	Well drained soil. Sun or partial shade. Border and mass planting. Excellent for cutting.

COMMON NAME *Botanical Name*	Color	Height	Space Apart	TIME			COMMENTS
				To Plant	To Germinate	Of Blooming	
SPIDERFLOWER, A *Cleome spinosa*	White, Pink with Crimson stamens	3′	1′	March	10 days	June-Oct.	Plant in the border or with shrubbery. Also pure white variety.
STOCK, A or P *Matthiola incana*	Various	1-2′	1′	Sept.-Jan.	5-8 days	Feb.-May.	Well drained rich soil. Sun or partial shade. Bedding and border plant. Night-scented good variety. Fine for cutting.
STOKESIA, A or P *Stokesia laevis* *Stokesia caerulea rosea*	Blue Pink	1′	1′	Sept.-Oct.	10 days	May-June	Light, sandy soil. Sun or partial shade. Grown also from divisions. Good for cutting.
STRAWFLOWER, A *Helichrysum bracteatum*	Yellow white thru deep red	2–3′	1′	Jan.-Mar.	5-8 days	June-Aug.	Well drained soil. Flowers excellent for drying. Full sun.
SUMMER CYPRESS, A (BURNING BUSH) *Kochia scaparia var. trichophila*	Red, Green, Yellow foliage	1-2′	24″	Mar.-Apr.	15-18 days		Soak seeds over night before sowing. Fine, dense foliage turns bronze in fall. Ornamental pyramidal plant used for borders and hedges.
SUNFLOWER, A or P *Helianthus*	Yellow	6–8′	2′	Mar.-May	10 days	May-Sept.	Full sun. Attracts birds. Background or screen planting in rural areas.
SWEET PEA, A *Lathyrus odoratus (early)* *Lathyrus odoratus (late)*	Various	2-4′ 4-6′	2″ 2″	Oct.-Feb. Nov.-Feb.	15 days 15 days	Dec.-Apr. Apr.-May	Rich, well drained soil. Sun. Protect from cold. Plant alone. Excellent for cutting. Fragrant.
SWEET-SULTAN, A *Centaurea moschata*	Lavender, Purple, Rose, White	3′	1′	Sept.-Feb.	8 days	May-July	Sun. Plant in the border. Excellent for cutting.
SWEET-SULTAN, A or P *Centaurea imperialis hybrid*	Lavender, Rose, White	2–3′	8″	Sept.-Mar.	8 days	Apr.-July	Light, sandy soil. Sun. Good as border background and for cutting. Fragrant.
SWEET WILLIAM, B *Dianthus barbatus*	Various	8″	6″	Sept.-Dec.	10 days	Apr.-May following year	Well drained soil. Plant in protected border. Grown also from divisions. Splendid for cutting.
TITHONIA, A (MEXICAN SUNFLOWER) *Tithonia speciosa*	Orange	4–6′	3′	Feb.-Apr.	21 days	July-Oct.	Sun. Robust grower. Excellent for cutting. Flowers resemble single dahlias.
TOBACCO, FLOWERING, A or P *Nicotiana alata grandiflora* *Nicotiana sanderae* *Nicotiana sylvestris*	White and Violet Red White	5′ 3′ 5′	12–18″	Sept.-Mar.	10 days	May-Oct.	Sandy loam. Sun or partial shade. Water freely. Plant in perennial border. Fertilize for continuous bloom. Very fragrant.
TORENIA, A *Torenia fournieri*	Blue, White	12″	8″	Mar.-June	10 days	May-Nov.	Sun or partial shade. Excellent for bedding and edging.
VERBENA, P *Verbena erinoides hybrids*	Various	8–12″	12″	Nov.-Mar.	10 days	Jan.-Dec.	Sun or partial shade. Grown also from divisions and cuttings. Excellent for bedding, edging, window boxes. Naturalizes. Profuse bloomer.
VIOLA, A *Viola cornuta*	Blue, White, Yellow, Purple	6″	6″	Sept.-Nov.	20 days	Jan.May	Light, rich soil. Full sun. Excellent for bedding, cutting and edging.
VIOLET, P *Viola odorata*	Purple, White	6″	8″	Any time		Oct.-May	Grown usually from divisions. Rich loamy soil. Sun or semi-shade. Fertilize with bone meal. Continuous bloomer.
WALLFLOWER, A *Cheiranthus cheiri*	Yellow, Orange	8–12″	6″	Sept.-Dec.	5 days	Feb.-Apr.	Light, rich soil. Sun or partial shade. Plant in the border. Fragrant. Fine for cutting.
ZINNIA, A *Zinnia*	Various	1–3′	1′	Mar.-Aug.	5 days	May-Dec.	Any good, rich soil. Sun or partial shade. Most successful summer bloomer. Many beautiful varieties, large, dwarf and miniature; single, double and ruffled.

A—Annual D—Deciduous
P—Perennial E—Evergreen

VINES EASILY GROWN

COMMON NAME *Botanical Name*	Color	Best From	TIME To Plant	TIME To Germinate	TIME Of Blooming	COMMENTS
ALLAMANDA (GOLDEN TRUMPET) P E *Allamanda hendersoni*	Yellow	Plant			Spring Summer	Tender. Fragrant. Long season of bloom. Large flowers.
BEAN, SCARLET RUNNER, A *Phaseolus coccineus*	Scarlet	Seed	Mar.-April	8 days	June-Aug.	Likes sun. Rapid growing. Flowers ornamental. Pods are edible.
BIGNONIA (CROSSVINE), P E *Bignonia capreolata*	Yellowish-Red	Seed Cuttings	Mar.-May		Summer	Old favorite. Native. Large flowers. Acid soil. Prolific bloomer.
BIGNONIA, P E *Bignonia chamberlayni*	Yellow	Seed Cuttings			Aug.-Sept.	Sun. Rich soil. Tender. Stout climber. Showy funnel-shaped flowers.
BOUGAINVILLEA, P E *Bougainvillea*	Magenta, Crimson, White, Orange	Plant	Mar.-Aug.		April-Nov.	Tender. Also grown from cuttings. Poor soil. Little water. Sun. May not bloom first year. Protect from freezing. If frozen, cut back to live wood.
CARDINAL CLIMBER, A *Quamoclit sloteri*	Red with white throat	Seed	Mar.-May	8 days	June-Nov.	Sun. Vigorous. Showy blossoms.
CLEMATIS (VIRGIN'S-BOWER), P E *Clematis paniculata*	White	Plant	Nov.-April		July-Aug.	Best secure 2 year old plant. Likes sun. Rich soil. Also large flowered hybrids, in various colors.
CLITORIA (BUTTERFLY-PEA), A *Clitoria mariana*	Blue	Seed Cuttings	Mar.-May		June	Hardy. Attractive twiner.
CLYSTOMA *Clystoma callistegioides*	Lavendar	Plant	Nov.-Mar.		May	Sometimes known as Bignonia speciosa. Sun or partial shade, also from layers. Subject to freeze.
CORAL VINE, P D *Antigonon leptopus*	Pink, White	Root	Mar.-May		June-Oct.	Easily grown. Sun or partial shade. Cover with two inches of soil. Hardy and luxuriant.
CYPRESSVINE, A *Quamoclit pennata*	Red, White	Seed	Mar.-May	5 days	May-Oct.	Best in sun. Rapid growing. Dense, fernlike foliage.
DOXANTHA *Doxantha unguis-cati*	Yellow	Plant	Nov.-Mar.		Mar.	Sometimes offered as Bignonia tweediana. Grown also from layers. Sun or partial shade. Tender.
DUTCHMAN'S PIPE, P D *Aristolochia durior*	Yellowish Brown	Seed	Mar.-May		June	Hardy. Thrives best when lime is added to soil. Semi-shade Exotic flowers. Heart-shaped foliage. Twiner.
FIG VINE P E *Ficus pumila (repens)*		Plant	Any time			Grown also from divisions and layers. Best for wall cover. Glossy, dark green leaves.
FLAMEVINE OF BRAZIL, P E *Pyrostegia ignea*	Orange-Red	Cuttings	Any time		Midwinter Summer	Tender. Well-drained soil. Quick-growing. Tendrils cling to stone or wood.
GOURD, A *Cucurbita ovifera*	Cream, Yellow	Seed	April-May	12 days	June-Sept.	Full sun. Very rapid, coarse growth. Fruits unique in shape. Other ornamental gourds in variety.
HONEYSUCKLE, BELGIAN, P E *Lonicera periclymenum (belgica)*	Buff and Pink	Plant	Nov.-April		April-Nov.	Also grown from cuttings and layers. Likes sun. Very fragrant. Can be grown as bush or vine. Commonly called woodbine.
HONEYSUCKLE, COMMON (HALL'S), P E *Lonicera halliana japonica*	White	Plant	Nov.-April		April-Nov.	Grown also from rooted layers. Full sun. One of our popular vines. Rapid growing.
HONEYSUCKLE, CORAL, P E *Lonicera sempervirens*	Red	Plant	Nov.-April		Feb.-Mar. Oct.-Nov.	Grown also from cuttings and layers. Sun or partial shade. Colorful.
HYACINTH BEAN (JACK BEAN), A *Dolichos lablab*	White and Purple	Seed	Mar.-April	8 days	May-Aug.	Likes sun. Rapid growing. Both flower and fruit clusters ornamental.

COMMON NAME *Botanical Name*	Color	Best From	TIME To Plant	 To Germinate	 Of Blooming	COMMENTS
HYDRANGEA, CLIMBING, P D ***Hydrangea petiolaris***	White	Seed	Nov.		May-June	Hardy. Fragrant flowers. Aerial roots enable it to climb stone and stucco walls.
IVY, BOSTON, P D *Parthenocissus (tricuspidata)*		Plant	Nov.-April			Grown also from cuttings and layers. Quick growing wall cover. Handsome autumn foliage.
IVY, ENGLISH, P E *Hedera helix*		Plant	Any time			Grown also from cuttings and layers. Excellent ground and wall cover. Slow growing.
JASMINE, P E *Jasminum mesnyi*	Yellow	Plant	Nov.-April		February	Grown also from cuttings and layers. Sun or shade. Semi-climber. Easy to transplant. Good in window boxes.
JASMINE, CONFEDERATE, P E *Trachelospermum jasminoides*	White	Plant	Nov.-April		April-May	Grown also from layers. Likes sun. Beautiful. Small clusters fragrant flowers.
JASMINE, CAROLINA, P E *Gelsemium sempervirens*	Yellow	Plant	Nov.-Mar.		February	Grown from layers also. Sun or partial shade. Beautiful native vine. Fragrant.
LANTANA, WEEPING, P D *Lantana sellowiana*	Lavender	Plant	Mar.-May		All year	Grown also from cuttings. Fine for rock gardens, window boxes and ground covers. Prolific bloomer.
MADEIRA-VINE, P D *Boussingaultia baselloides*	White	Tuber	Mar.-May		June-Sept.	Sun. Multiplies rapidly. Old garden favorite. Fragrant. Called mignonette vine.
MEXICAN FLAME VINE, A *Senecio confusus*	Orange	Seed	Nov.		June to Sept.	Sun. Average soil. Rapid grower. Daisy-like flowers bloom all summer. Excellent colorful vine.
MOONFLOWER, A *Calonyction aculeatum*	White	Seed	Mar.-May	10 days	July-Sept.	Likes sun. Rapid, coarse growth. Night-blooming. Fragrant. Soak before planting.
MORNING-GLORY, P D *Ipomoea leari*	Blue	Plant	Mar.-April		May-Oct.	Grown also from cuttings. Sun or partial shade. One of the prettiest of the Morning-Glories.
MORNING-GLORY, A *Ipomoea*	Various	Seed	Mar.-April	8 days	May-Sept.	Sun or partial shade. Soak seed before planting. Rapid growing.
MORNING-GLORY, P *Ipomoea horsfalliae*	Magenta	Tubers	Spring		Summer	Beautiful. Hawaiian variety. Rampant grower.
NASTURTIUM, CLIMBING, A *Tropaeolum majus*	Yellow, Orange	Seed	Spring	8 days	Summer	Blooms best in poor soil. Sun.
PANDOREA *Pandorea ricasoliana*	Pink	Seed Cutting	Nov.-Mar.		April	Sun. Rich soil. Tender. Slow to establish growth. Good for trellises and arbors.
PASSIONFLOWER, P D *Passiflora*	Lavender	Root	Mar.-April		June-Aug.	Grown also from divisions. Free bloomer. Interesting for curious flower formation.
POTATO VINE, P D *Solanum jasminoides*	Lavender, White	Plant	Mar.-May		May-Oct.	Grown also from cuttings and layers. Sun or partial shade. Half hardy. Free bloomer. Rapid growth. Beautiful.
RANGOON CREEPER, P E *Quisqualis indica*	Pink to Red	Seed Cuttings	Mar.-May		Summer	Tender. Fragrant. Vigorous grower. Twiner. Should be pruned after blooming to induce new growth.
SHELLFLOWER, P E *Clitora ternatea*	Blue	Seed	Mar.-May		Summer	Useful for screening. Twiner.
SILVER LACE VINE, P E *Polygonum auberti*	White	Seed	Mar.-May		Midsummer	Sun. Hardy. Fragrant. Rapid grower. Excellent for screening. Twiner.
SNAIL-VINE, P E *Phaseolus caracalla*	Lavender	Seed Divisions	Mar.-May		Spring	Tender. South exposure. Fragrant. Decorative pea-shaped flowers.
THUNBERGIA (SKY FLOWER), P *Thunbergia grandiflora*	Blue	Seed	Feb. to June	2 weeks	July to Oct.	Sun. Rapid grower. Does not stand much cold but comes back quickly if frozen down.

VINES EASILY GROWN

COMMON NAME *Botanical Name*	Color	Best From	TIME To Plant	To Germinate	Of Blooming	COMMENTS
TRUMPETCREEPER, P D *Campsis radicans*	Orange-Red	Plant	Nov.-Mar.		April-Sept.	Grown also from root cuttings. Rampant grower. Very beautiful. Native.
VIRGINIA CREEPER, P D *Parthenocissus quinquefolia*		Plant	Nov.-April			Grown also from cuttings and layers. Handsome autumn foliage. Excellent wall cover. Rapid growing.
WISTERIA, P D *Wisteria floribunda* *Wisteria sinensis*	Violet-Blue Blue, White	Plant Plant	Nov.-Mar. Nov.-Mar.		May Mar.-April	Grown from cuttings and layers. Sun or partial shade. Prune top immediately after bloom. If no bloom, root-prune in October.
WISTERIA, P E *Wisteria megasperma*	Purple	Plant Layers			July, Aug., Sept.	Evergreen foliage, grows very tall. Rich, loamy soil, humus. Drought resistant, disease free.

FERNS FOR INDOORS AND OUTDOORS

COMMON NAME *Botanical Name*	Description	Height	Propagation	COMMENTS
BIRD'S NEST FERN *Asplenium nidus*	Formal rosette of fresh green, spatula-shaped leaves	2–3′	Sporelings	Excellent indoor fern. Requires moist, well-drained fibrous soil, filtered sunlight.
BOSTON FERN *Nephrolepsis exaltata bostoniensis*	Clusters of clear, medium green pinnate fronds	2–3′	Runners from base of leaves	Foliage freezes. Recovers quickly from roots. Requires shade, peat moss and sandy soil.
FISHTAIL FERN *Nephrolepsis biserrata furcans*	Medium green fronds 6 to 10 inches wide. Segments rather distant, thick and forked.	2–4′	Runners from base of leaves	Good in pots or hanging baskets.
FLUFFY RUFFLES *Nephrolepsis exaltata, var. fluffy ruffles*	Light green fronds of multiple curly pinnates	2–4′	Runners from base of leaves	Very beautiful for hanging baskets.
HOLLY FERN *Polystichum falcatum* *(Cyrtomium falcatum)*	Shiny evergreen leaves, sharply toothed.	3–5′	Sporelings, or division of rootstock	Very hardy. Semi-shade. See The Tropical Garden, page 106.
LEATHER-LEAF FERN *Polystichum adiantiforme*	Dark evergreen fronds, segments heavy textured.	2–3′	Division of rootstock	Very hardy. Stands cold weather. Requires filtered light or morning sun.
MAIDENHAIR *Adiantum*	Light green, delicate fronds with wedge-shaped segments.	12–15″	Division of rootstock	Multiplies rapidly. Foliage freezes. See Circle of the Year, pages 13, 15, 30.
POLYSTICHUM SETOSUM *Polystichum setosum*	Feathery fronds from single crown.	12–15″	Division of rootstock	Very hardy. Stands cold well. Requires rich moist loam. See The Tropical Garden, page 106.
SPRENGERI *Asparagus sprengeri*	Apple green, multiple fronds with short, needle-like leaves.	1–2′	Division of rootstock	Hardy. Multiplies rapidly. Good fern for pots, cascading 3 or 4 feet.
STAGHORN FERN *Platycerium alcicorne*	Exotic fronds, winged from base spreading into fan-shaped blades.	2–3′	Suckers from roots	Requires lots of peat moss or leafmold, indirect light and occasional syringing. Good basket fern.
TREE FERN, HAWAIIAN *Cibotium chamissoi*	Lacy fronds develop pinnately from golden-haired trunks.	4–6′	Sporelings or by rooting top of tree trunks in water or moist, porous soil.	Excellent in modern buildings or offices. Pot in porous soil or in shallow water with pebbles. Requires humid atmosphere.
WHITTMANI *Nephrolepsis exaltata, var. whitmani*	Light green, lacy fronds, thickly pinnated	2–3′	Runners from base of roots.	Beautiful in hanging baskets.
WOOD FERN *Dryopteris*	Erect handsome fronds developing from a dense crown.	2–4′	Sporelings, or division of rootstock.	Excellent for garden. Requires shade, much water, well-drained fibrous soil.

PLANTS FOR AN HERB GARDEN

COMMON NAME *Botanical Name*	Description	Height	Space Apart	Time to Plant	COMMENTS)
BASIL, SWEET, A *Ocimum Basilicum*	Oval purplish leaves. Tiny white flowers.	1–2′	18″	March	Sun. Pinch out tips for a bushy plant.
BORAGE, A *Borago officinalis*	Stiff hairy foliage. Sky-blue flowers.	2″	1′		Hardy, Sun. Faint cucumber flavor.
CHERVIL, A *Anthriscus Cerefolium*	Fern-like leaf. White flower.	2′	6″	Monthly	Some shade. Do not transplant. Discourage flowers in favor of leaves. Faint licorice flavor.
CHIVES, P *Allium Schoenoprasum*	Grass-like leaves. Lavender flowers.	1′	6″	October	Sun. Cut frequently but no more than two-thirds back, or plant will die. Propagate from seeds or divisions. Divide every three years.
DILL, A *Anethum graveolens*	Fine leaves. Small yellow flowers.	2½′	18″	March	Sun. Allow to develop flower tops. Both leaves and seeds of dill can be used.
FENNEL, A *Foeniculun vulgare*	Feathery leaves. Small yellow flowers.	3-5′	2′	March	Sun. Good background plant. Allow to develop seed, but cut seed heads and stalks before they scatter. Dried seeds are spices.
GARLIC, P *Allium sativum*	Onion-like leaves. Lavender flowers.	6–12″	8″	October	Sun. Hardy. Green leaves give seasoning known as green garlic. Lift bulb when leaves turn yellow; dry in sun and hang in dry place. Increase is by division of cloves.
MARJORAM, SWEET, P *Majorana Hortensis*	Tiny gray-green leaves. White or lavender flowers.	2′	1′	March	Sun. Tender. Keep blossoms cut and plant trimmed to prevent woody growth. Propagate from seeds, cuttings, or roots.
MINT, P *Mentha Spicata*	Dark green leaves. Spikes of lilac flowers.	18–24″	1′	March	Some shade and lots of water. Keep flowers cut. Propagate by runners. Fragrant leaves best used fresh.
OREGANO, P *Origanum vulgare*	Oval green leaves. Purple-pink blooms.	18–30″	2′		Sun. Hardy. Medium-rich soil. Keep trimmed to prevent flowering. Replant every three years. Best fresh, but also used dried. Creeping rootstock.
PARSLEY, B *Petroselinum crispum*	Dark green, tightly curled leaves.	2–10″	3″	April-July	Sun. Good soil. Soak seeds in warm water 24 hours before planting. Don't let plant go to seed.
ROSEMARY, PROSTRATE, P *Rosemarinus officinalis prostratus*	Dark needlelike leaves. Light blue flowers.	15″		Sept.	Propagate from cuttings. Likes lean, well-drained soil, and full sun. Good low hedge plant. Larger variety grows up to six feet.
SAGE, P *Salvia officinalis*	Gray-green leaves. Spikes of violet-blue flowers.	18–24″	10″		Sun. Drought resistant. Cut back after bloom. Propagate from seeds, cuttings or layers. Divide every three years.
SAVORY, SUMMER, A *Satureja hortensia*	Lance-shaped leaves. Pink, white or lilac flowers.	18″	6″	March	Sun. Pinch out tips for bushier plants. Winter savory may also be propagated by cuttings or divisions of rootstocks in Sept.
SAVORY, WINTER, P *Satureja montana*		15″	12″		
TARRAGON, P *Artemisia dracunculus*	Narrow dark-green leaves.	18″	12″		Sun or shade. Poor sandy soil results in best flavor. Propagated by division of roots or cuttings in fall or early spring. Do not fertilize.
THYME, P *Thymus vulgaris*	Small green leaves. Tiny lavender flowers.	6–8″	6″	March	Sun. Light sandy, moderately dry soil. Prune after flowering. Propagate from seed or from cuttings taken in early summer. Fine to fill in crevices of flagstones or brick walls.

RIVER OAKS GARDEN CLUB FORUM OF CIVICS

Conclusion

THIS BOOK reflects the changing patterns of gardening in one geographic area for over three decades. Contemporary architecture, increased outdoor living and entertaining, the scarcity of garden labor, and other factors have combined to produce new types of gardens. Many new plants have been introduced and many new hybrids now compete with old favorites. Improved techniques have been developed to deal with garden problems and unusual climatic conditions. While no attempt has been made to cover completely any topic considered, special emphasis has been given to flower families of major local importance.

May this book be for many an introduction to the fascinating world of gardening; for others, a practical handbook; and for some, a point of departure to more specialized fields of horticulture. The creation of the living beauty of gardens, both public and private, enriches any community.

The kiss of the sun for pardon,
The song of the birds for mirth;
One is nearer God's heart in a Garden
Than anywhere else on earth.

—DOROTHY FRANCES GURNEY

LIST OF ILLUSTRATIONS

Azaleas 2

Garden Design Using Clipped Hedges 42

Magnolia Soulangeana 50

Pear Trees in Bloom 54

Hedge Enclosing Small Formal Garden 58

Ophiopogon (Monkey Grass) As Ground Cover 63

Terrace with Potted Azaleas 66

Camellias 74

Roses 80

Agapanthus 87

Azaleas in Shady Garden 100

Pool in Tropical Garden 103

Indoor Garden 109

Daylilies in Civic Planting (City Hall Park) 115

Tropical Plants in Patio 123

River Oaks Garden Club Forum of Civics with Model Gardens 154

INDEX

Page

A

Abelia 60, 101, 122, 136
Acalypha (see Chenille Plant).....137
Acalypha wilkesiana (Painted Copperleaf)....105
Acanthus mollis (Bear's-breech) 105
Achimenes 95, 130
Acidity 44
Aeonium arboreum 111
African Violet (Saintpaulia) 111, 113
Agapanthus (Lily-of-the-Nile).90, 101, 130
Agarita 136
Agave (Century Plant).107, 111
Ageratum 97, 101, 144
Ailanthus (Tree of Heaven)...... 51
Ajuga Reptans 65
Algerian Ivy (Hedera canariensis) 105
Allamanda, Hendersoni 150
Allium 90, 91, 130
Almond, Flowering....101, 136
Alpinia (see Ginger, Shell)...95, 132
Alstroemeria (Peruvian Lily) 89, 130
Althea ..60, 101, 120, 122, 136
Alyssum, Sweet 97, 144
Amaranthus 144
Amarcrinum 89, 130
Amaryllis 88, 101, 130
Amazon Lily (see Eucharis)....89, 96, 131
Amethyst (see Browallia) .97, 101, 112, 144
Anaqua (Ehretia)......53, 136
Anchusa (Cape Forget-me-not)....144
Andromeda (Lily-of-the-Valley Tree).136
Anemone 95, 101, 130
Angel's Trumpet (Datura).136
Annuals 96, 144
Anthurium (Flamingo Flower) 94, 96, 112, 130
Antirrhinum (see Snapdragon) 148
Apple, Fruiting 53, 136
APRIL 17
Aralia papyrifera (see Rice-Paper Plant)...104, 142
Aralia sieboldi (Fatsia japonica) 104
Aralia elegantissima 112
Arbutus 136
Arctotis 97, 144

Page

Ardisia 101, 136
Arum Family 94
Asclepias (see Butterflyweed) 144
Ash, Arizona 51
Aspidistra 113, 130
Aucuba japonica, nana (Japanese Aucuba) 105
Aucuba japonica, var. Golddust (Golddust Plant) ..105, 136
AUGUST 29
Avocado 55
AZALEAS ...65, 101, 112, 136
  Bonsai 111
  Belgian Hybrids 68
  Diseases and Pests...... 72
  Glenn Dale Hybrids..... 68
  Kurumes 67
  Fertilization 70
  Indicas, color listing..... 67
  Macranthas 68
  Mulch 71
  Native types 69
  Pericats 68
  Planting 69
  Propagation 73
  Pruning 71
  Rutherford Hybrids 68
  Satsuki Hybrids 69
  Soil Mixture 70
  Watering 71
  Winter Care 71

B

Babysbreath (Gypsophila)..144
Bachelor's Button (see Cornflower) 97, 145
Balloon-flower (Platycodon) 101, 144
Balsam, Garden 144
Balsam, Sultan 101, 144
Bamboo, Dwarf Hedge (Bambusa multiplex, var. nana) 60, 107
Bamboo, Hedge (Bambusa multiplex)....107
Bambusa multiplex (Hedge Bamboo) 107
Bambusa multiplex, var. nana (Dwarf Hedge Bamboo).107
Banana, Abyssinian (Musa ensete) 108
Banana, Pink (Musa rosacea) 108
Banana, Plantain (Musa paradisiaca sapientum)...108
Banana, Rose-flowered 130
Bananas 55, 108

Page

Banana Shrub (see Magnolia fuscata-Michelia fuscata) ...105, 140
Banana, Sumatra (Musa sumatrana) 108
Barbados Cherry 136
Basil, Sweet 114, 153
Basket of Gold (see Goldentuft) 147
Bauhinia (see Orchid Tree)...53, 141
Bean, Scarlet Runner......150
Beargrass 136
Bear's-breech (Acanthus mollis) 105
Beautyberry (Callicarpa) 122, 136
Begonia, Fibrous Rooted 112, 130
Belamcanda (see Blackberry Lily).94, 130
Bells-of-Ireland 144
Biennials 97, 144
Bignonia, chamberlayni 150
Bignonia (Crossvine)......150
Birch, River 51
Bird of Paradise (see Poinciana) 122, 142
Bird of Paradise (see Strelitzia) .106, 112, 135
Birds, Native Plants to Attract........ 61
Bird's Nest Fern..........152
Black Bamboo (Phyllostachys nigra)....107
Blackberry 55, 56
Blackberry Lily (Belamcanda) ...91, 94, 130
Black Gum 51
Blanketflower (Gaillardia) 97, 144
Blood Lily (see Haemanthus) ...89, 132
Bluebell, Texas....97, 116, 144
Bluebonnet 27, 32, 97, 144
Blue-eyed Grass (Sisyrinchium) .91, 94, 130
Blue Spirea (see Caryopteris) 137
Bois D'Arc (Osage Orange) 52
Boltonia 144
Bonemeal 46
Bonsai 111
Borage 114, 153
Boston Fern 152
Bottlebrush 122, 136
Bougainvillea 150
Bouncing Bet 144
Bouvardia 136
Box, Japanese 60

Page

Bridlewreath (see Spirea) 122, 143
Bromeliad 108, 112
Browallia (Amethyst) .97, 101, 112, 144
Brunfelsia (Lady-of-the-night) (Yesterday-today-and-tomorrow) 136
Buckeye (see Horsechestnut) 139
Buckthorn, Carolina 51
Buddleia (see Butterflybush) .122, 137
BULBS 86
  Miscellaneous bulbs 95
  Pot-grown bulbs 96
BULBS, TUBERS AND RHIZOMES
  Planting Chart 130
Burning Bush (see Summer Cypress)...149
Bushclover 137
Butterflybush (Buddleia) 122, 137
Butterflyflower (Schizanthus) 101, 144
Butterfly Lily (Hedychium) 95, 101, 102, 130
Butterfly-pea (see Clitoria) 150
Butterflyweed (Asclepias) 62, 144
Buttonbush 122, 137

C

Cactus 62, 111
  Christmas (Zygocactus) ...111, 112
  Pincushion 112
Caladium..94, 99, 101, 113, 130
Calendula 145
Calla Lily 94, 101, 131
Callicarpa (see Beautyberry)...122, 136
Calliopsis 97, 145
Calycanthus (see Sweetshrub)...101, 143
Camassia 91, 131
CAMELLIAS 73, 101, 137
  Diseases 77
  Fertilizing 78
  Japonica varieties, listed.. 75
  Location 76
  Planting 76
  Propagation 78
  Sasanqua varieties 60, 75
  Summer and winter care.. 79
Camellia Thea (see Tea Plant)........143
Campanula (see Canterbury Bells)...145
Candletree (Cassia Alata) (see Cassia) 53, 137

Page

Candytuft 97, 101, 145
Canna 95, 101, 116, 131
Canterbury Bells (Campanula) 101, 145
Cape Cowslip (see Lachenalia) 91, 133
Cape Forget-me-not (see Anchusa) 144
Cardinal Climber 150
Carica papaya (Papaya)....104
Carissa Boxwood Beauty (Carissa grandiflora, dwarf) 105
Carissa grandiflora (Natalplum Carissa) 104
Carissa grandiflora, dwarf (Carissa Boxwood Beauty) 105
Carissa, var. minima (Dwarf Natalplum) 105
Carnation of India (Tabernaemontana grandiflora) 107
Caryopteris (Blue Spirea)..137
Cassia 53, 137
Castor-bean (Ricinus) 145
Catalpa 53, 137
Catnip 62
Cedar 57
Celosia (see Cockscomb)...145
Centaurea (see Cornflower) 97, 145
Century Plant (Agave) 107, 111
Cerastium (Snow-in-Summer) 145
Ceratozamia mexicana (Mexico Horncone) 106
Cereus, Night-blooming 111, 112
Chamaerops humilis (Mediterranean Palm) 106, 107
Chaste Tree (Vitex) 53, 122, 137
Chenille Plant (Acalypha).137
Cherry-Laurel (see Peach, Wild) ...53, 60, 141
Chervil 114, 153
Chestnut Dion (Dion edule) 106
China Aster 145
Chinaberry 51, 137
China Fir 57
Chinese Date (see Jujube) 53, 55, 140
Chinese Fanpalm (Livistona chinensis) 106, 107
Chinese Forget-me-not (Cynoglossum) 101, 145
Chinese Hat Plant........137
Chinese Lantern Plant.....145

Page

Chinese Mahonia (Mahonia fortunei) 105
Chinese Parasoltree 51
Chinese Tallow 51
Chionodoxa (Glory-of-the-Snow) 90, 91, 131
Chinquapin, Water 96, 131
Chives 114, 153
Chlidanthus 89, 131
Chrysanthemum 18, 21, 32, 97, 121, 145
Cigarette Plant 137
CIRCLE OF THE YEAR and Color Chart for Gardeners 9
Citharexylum berlandieri (Fiddlewood) 104
Clarkia 145
Clematis 101, 150
Cleome spinosa (see Spiderflower) ..105, 149
Clethra 137
Cleyera japonica 104
Climbing Lily (see Gloriosa) 91, 132
Clitoria (Butterfly-Pea)....150
Clivia 89, 131
Clystoma 150
Cocculus laurifolius (Laurelleaf Snailseed)...104
Cockscomb (Celosia) 145
Codiaeum variegatum (Crotons) 106
Coleus 15, 112, 145
COLOR IN THE GARDEN 98
Columbine 145
Compost 46
Confederate Rose 137
CONIFEROUS EVERGREENS 57
  Spraying 21
  Pruning 121
Coniferous Evergreens, List of 57
Coontie (Zamia integrifolia).....105
Cooperia (see Rain Lily)......89, 134
Coralbean 116, 137
Coralberry (see Currant, Indian)...138
Coraltree 53, 137
Coral Vine 101, 150
Cordia (see Wild Olive.53, 143
Coreopsis 97, 145
Cornflower (Bachelor's Button, Centaurea) ..97, 145
Cosmos 97, 145
Cotoneaster 101, 137
Cottonseed Meal 46
Crabapple, Flowering ..53, 137
Crabapple, Southern....53, 137

Page

- Crapemyrtle 29, 119, 120, 122, 137
- Crassula (Jade Tree) ...111, 112, 113
- Crinum (Milk and Wine Lily) 88, 101, 131
- Crossandra (Crossandra infundibuliformis) 106
- Crossandra infundibuliformis (Crosssandra) 106
- Crossvine (see Bignonia)...150
- Crotons (Codiaeum variegatum)..106
- Cultivation ...11, 15, 32, 38, 41
- Cup of Gold (Solandra guttata)......106
- Cuphea 138
- Curcuma petiolata (see Ginger Hidden).95, 131
- Currant, Indian (Coralberry) 138
- Cycas revoluta (Sago Palm) 106, 107
- Cynoglossum (see Chinese Forget-me-not) 101, 145
- Cyperus alternifolius (Umbrella Plant) 107
- Cypress 57, 62
- Cypress, Common Bald.... 51
- Cypressvine 150

D

- Daedalacanthus (see Eranthemum) 138
- Daffodil 89, 131
- Dahlia 29, 95, 118, 121, 131, 145
- Daisy 146
  - African Golden 146
  - English 146
  - Michaelmas 97, 101, 146
  - Painted 146
  - Shasta 30, 97, 146
  - Swan-River 146
- Daphne, Rose 138
- Daphne, Winter 138
- Datura (see Angel's Trumpet)...136
- Datura, Metel 146
- Daylily (Hemerocallis) 90, 91, 101, 131
- DECEMBER 40
- Delphinium 146
- Desert Palm (Washingtonia filifera) ..107
- DESIGN IN THE GARDEN 43
- Deutzia 101, 122, 138
- Dewberry 55, 56
- Dianthus (see Pinks)...97, 148
- Dieffenbachia 108
- Dietes 91, 94, 131
- Dill 114, 153

Page

- Dion edule (Chestnut Dion) 106
- Dion spinulosum (Mexican Cycad) 106
- DISEASES AND PESTS..124
  - Ants 128
  - Azalea Diseases 72, 126
  - Azalea Petal Blight...72, 126
  - Brown Patch, Lawns..49, 126
  - Camellia Beetles 128
  - Camellia Diseases ...77, 126
  - Canna Worms 128
  - Chewing Insects 127
  - Chlorosis 126
  - Conifer Blight 126
  - Damping-Off 126
  - Fruit Tree Worms......128
  - Lily Diseases 126
  - Mildew 127
  - Nematodes 127
  - Plant Rot 127
  - Pests 49, 127
  - Red Spider 128
  - Rust 127
  - Scale 128
  - Sprays and Dusts.......125
  - Stalk Borers 127
  - Sucking Insects 127
  - Thrips 128
  - Weed Control 128
  - White Flies 128
  - Worms 128
- Dogwood ...101, 118, 122, 138
- Dollar Plant (see Honesty or Lunaria)....147
- Doxantha 150
- Dracaena 108, 113
- Dracaena draco (Dragon's blood dracaena) 104
- Dragon's blood dracaena (Dracaena draco) 104
- DRAINAGE 47
- Drooping Leucothoe (Leucothoe catesbaei) ...104
- Duranta (Golden Dewdrop) 138
- Dusty Miller 62
- Dutchman's Pipe 150

E

- Ebony, Texas 53, 138
- Ehretia (see Anaqua)...53, 136
- Elaeagnus 60, 62, 138
- Elderberry 122, 138
- Elms 51
- Eranthemum (Daedalacanthus) 138
- Eriobotrya japonica, var. bronze (Bronzeleaf Loquat).104, 106
- Espalier method 53, 55
- Eucalyptus 51, 138
- Eucharis 89, 96, 131

Page

- Euonymus 60, 65, 101
- Evergreens 121

F

- False-Dragonhead (Physostegia) 146
- False-Indigo 138
- Fatshedera lizei 106
- Fatsia japonica (Aralia sieboldi) 104
- FEBRUARY 12
- Fennel 114, 153
- FERNS FOR INDOORS AND OUTDOORS 152
- Fertilizers 45, 46
- Feverfew 97, 146
- Fiddlewood (Citharexylum berlandieri) 104
- Figs 56
- Fig Vine 150
- Firethorn (see Pyracantha) ...101, 142
- Fishtail Fern 152
- Flag (see Iris, Native)..92, 133
- Flamevine of Brazil........150
- Flamingo Flower (see Anthurium) .94, 96, 112, 130
- Flax 146
- Flowering or Berried Trees, List of.......... 53
- FLOWERING PLANTS GROWN FROM SEEDS 144
- FLOWERING SHRUBS AND TREES 136
- Fluffy Ruffles 152
- Forget-me-not (Myosotis) 35, 65, 97, 101, 146
- Four-o'clock 146
- FRAGRANT GARDEN...102
- Frangipani (Plumeria).....106
- Franklinia 138
- Fringetree (Granny Graybeard) .53, 138
- FRUITS FOR THE GARDEN 56
- FRUIT TREES AND FRUITS 55

G

- Gaillardia (see Blanketflower) ..97, 144
- Galtonia 91, 131
- GARDEN FLOWERS.... 96
- Gardenia (see Jasmine, Cape) 60, 102, 122, 139
- Garlic 114, 153
- Gayfeather (Liatris) 146
- Gazania 146
- Geranium 102, 112, 146
- Gerbera (Transvaal Daisy).97, 98, 146
- Gill-over-the-ground 65

Page
Ginger Lilies 95, 131, 132
  Hidden Ginger (Curcuma) 95, 131
  Kahili Ginger (Hedychium) 95, 131
  Shell Ginger (Alpinia) 95, 132
Ginkgo (Maidenhair Tree). 51
Gladiolus ..13, 91, 93, 118, 132
Gladiolus Thrips 128
Globe Amaranth 146
Gloriosa (Climbing Lily) 91, 132
Glory-of-the-Snow (see Chionodoxa) ...91, 131
Gloxinia 113, 132
Godetia 101, 146
Golddust Plant (Aucuba japonica, var. golddust)..105
Golden Dewdrop (see Duranta) 138
Golden Raintree (see Raintree) 53, 142
Goldenrod 147
Goldentuft (Basket-of-Gold) 147
Gorse (Whin) 138
Gourd 150
Granny Graybeard (see Fringetree) 53, 138
Grapefruit 138
Grape Hyacinth (Muscari) 91, 132
Grapes 55, 56
Grass 49
GRAY-LEAVED PLANTS. 62
Gray-leaved Plants, List of.. 62
GROUND COVERS 64
Ground Covers, List of.... 65
Guava, Pineapple ..60, 62, 138
Guava, Strawberry 138
Guernsey Lily (Nerine).89, 132
Gypsophila (see Babysbreath) 144

H

Habranthus 89, 132
Hackberry (Sugarberry) ... 52
Haemanthus (Blood Lily) 89, 132
Hall's Honeysuckle (Common) (see Honeysuckle) 150
Haw, May 138
Haw, Red (Hawthorne).53, 138
Haw, Rusty Black..55, 122, 139
Heather 139
Heavenly Bamboo (see Nandina) 101, 141
Hedera canariensis (Algerian Ivy) 105
Hedera helix (see Ivy, English)....65, 151

Page
HEDGES 59
Hedges, List of........... 60
Hedychium (see Butterfly Lily) 95, 97, 130
Hedychium, coronarium (see Butterfly Lily) 95, 101, 102, 130
Hedychium, gardnerianum (see Ginger, Kahili) 95, 97, 131
Hemerocallis (see Daylily) 90, 91, 97, 101, 131
HERBS 114, 153
Hesperis (see Rocket, Sweet)....148
Hibiscus 139
Holly, Chinese 53, 139
Holly (Ilex) .53, 60, 101, 118, 139
Holly Fern (Polystichum falcatum) 106, 152
Hollyhock 27, 147
Honesty (Dollar Plant or Lunaria) 147
Honey Locust 52
Honeysuckle
  Belgian (Woodbine) 150
  Bush 102, 122, 139
  Common (Hall's) 150
  Coral 150
  Morrow 139
  Japonica 65
  Tartarian 139
Hornbeam, American 52
Horsechestnut (Buckeye)...139
Huckleberry 139
Huisache 53, 139
Humus 45
Hyacinth.91, 101, 102, 117, 132
Hyacinth Bean, (Jack Bean).150
Hydrangea 15, 101, 121, 122, 139
Hydrangea, Climbing 151
Hymenocallis (see Spider Lily)....89, 135
Hypericum (see St. Johnswort) 101, 143

I

Ilex (see Holly) 53, 60, 101, 118, 139, 143
Immortelle 147
Indian Hawthorn (Raphiolepis indica) 53, 105, 139
INDOOR GARDEN 108
Iris.35, 91, 92, 93, 101, 132, 133
  Algerian 91, 132
  Bearded 92, 93, 132
  Bulbous 93
  Dutch 91, 132
  Dwarf (pumila) 132
  Evansia (Crested) ...93, 132
  Japanese (kaempferi).92, 132

Page
  Louisiana 92, 93, 133
  Native (Flag) 92, 133
  Reticulata 91, 133
  Siberian 92, 133
  Spuria 92, 93, 133
Iris, Bearded, Bulbous, Louisiana, Spuria, Lists of 93
Ismene (Peruvian Daffodil) 89, 96, 133
Ivy, Boston 151
Ivy, English (Hedera helix) 65, 151
Ixia 91, 94, 96, 133
Ixora coccinea (Jungleflame Ixora) 105

J

Jacaranda 53, 139
Jack Bean (see Hyacinth-Bean) 150
Jack-in-the-Pulpit 94, 133
Jacobean Lily (Sprekelia) 89, 133
Jacobinia (Jacobinia carnea) 105
Jacobinia carnea..........105
Jacobinia, coccinea 139
Jade Plant (Crassula)..111, 113
JANUARY 10
Japanese Aucuba (Aucuba japonica, nana).105
Japanese Pieris (Pieris japonica) 105
Japanese Skimmia (Skimmia japonica) 105
Japanese Spurge (Pachysandra) 65
Japanese Yew 57
Jasmine 102, 122, 139
  Cape 60, 102, 122, 139
  Carolina 151
  Confederate 65, 151
  Dwarf Cape 139
  Dayblooming 139
  Grand Duke 139
  Italian 139
  Nightblooming 140
  Primrose 140
Johnny-jump-up 97
Jonquil 89, 133
Jujube (Chinese Date) ..53, 55, 140
JULY 26
JUNE 23
Jungleflame Ixora (Ixora coccinea) 105
Juniper 57, 111

K

Kalanchoe 111, 112
Kerria 101, 140

Page

- Kniphofia (Torch Lily or Red Hot Poker Plant) 91, 133
- Kumquat 140

L

- Laceflower, Blue 147
- Lachenalia (Cape Cowslip) 91, 133
- Lady-of-the-Night (see Brunfelsia) 136
- Lantana 65, 140
- Lantana, Weeping 151
- Lapeirousia 133
- Larkspur 97, 147
- Laurel, Texas Mountain 53, 116, 140
- Laurelleaf Snailseed (Cocculus laurifolius) ...104
- Lavender, Sweet 102, 147
- Lavender Cotton 62, 140
- LAWNS 48
- Leafmold 46
- Leather-Leaf Fern 152
- Lemons 56
- Leonotis (Lion's Tail) 140
- Leucojum (see Snowflake) 91, 134
- Leucophyllum (see Sage, Desert) 142
- Leucothoe catesbaei (Drooping Leucothoe) ..104
- Liatrus (see Gayfeather) ..146
- Ligustrum, Amur River Privet 140
- Ligustrum, Japanese 60, 120, 140
- Ligustrum, Waxleaf 60, 120, 140
- Lilies 35, 90
  - Ace 133
  - Centifolium 90, 133
  - Creole 90, 133
  - Croft 90, 133
  - Easter 133
  - Estate 90, 133
  - Goldband 90, 133
  - Madonna 90, 133
  - Philippine 90, 133
  - Regal 90, 134
  - Speciosum 90, 134
  - Tenuifolium 90, 134
  - Tiger 90, 117, 134
  - Umbellatum 90, 134
- Lily Diseases 126
- Lily Family 90
- Lily-of-the-Nile (see Agapanthus) ...90, 101, 130
- Lily-of-the-Valley ...38, 96, 134
- Lily-of-the-Valley Tree (see Andromeda) 136
- Lily Turf (see Liriope) 65, 91, 101, 133

Page

- Linden, American 52
- Linum (see Flax) 146
- Lion's Tail (see Leonotis)..140
- Liriope (Lily Turf) .65, 91, 101, 133
- Livistona chinensis (Chinese Fanpalm)..106, 107
- Lobelia 147
- Loblolly Bay 53
- Locust, Black 53, 140
- Loquat 53
  - Eriobotrya japonica..102, 140
  - var. bronze 104, 106
- Love-in-a-mist 147
- Lunaria (see Honesty or Dollar Plant) 147
- Lychnis (Maltese Cross)...147
- Lycoris 89, 101, 134
- Lythrum 147

M

- Madeira-Vine 151
- Magnolia
  - Pink (Magnolia soulangeana) 30, 53, 118, 140
  - Southern (Magnolia grandiflora) ..53, 101, 140
  - Star (Magnolia stellata) 140
- Magnolia Fuscata (Banana Shrub) ...105, 140
- Mahonia (Mahonia aquifolium) 101, 140
- Mahonia fortunei (Chinese Mahonia) 105
- Maidenhair Fern ..13, 15, 30, 41, 65, 152
- Maidenhair Tree (Gingho). 51
- Mallow 147
- Maltese Cross (see Lychnis) 147
- Manure 46
- Maples 52
- MARCH 14
- Marica (Walking Iris) 91, 94, 134
- Marigold, African 97, 147
- Marigold, French 97, 147
- Marjoram, Sweet......114, 153
- Martius Windmill (Trachycarpus Martianus) 107
- MAY 20
- Mediterranean Palm (Chamaerops humilis) 106, 107
- Mesquite 52, 140
- Mexican Buckeye 53, 141
- Mexican cycad (Dion spinulosum) 106
- Mexican Flame Vine......151
- Mexico Horncone (Ceratozamia mexicana) 106

Page

- Mexican Sunflower (see Tithonia) 149
- Milk and Wine Lily (see Crinum) 88, 131
- Milla (Triteleia) ...90, 91, 134
- Mimosa 53, 141
- Mint 102, 114, 153
- Mint, White Leaf 62
- Mistflower 97, 147
- Mockorange (philadelphus) 122, 141
- Monkey Grass (Ophiopogon) ......65, 112 (see illustration p. 63)
- Monstera Deliciosa 110
- Montbretia....91, 94, 101, 134
- Moonflower 151
- Morning-Glory 151
- Morning-Glory Tree 141
- Mulberry 52, 55
- Mulch .18, 21, 24, 44, 71, 82, 124
- Musa ensete (Abyssinian Banana)....108
- Musa paradisiaca sapientum (Plantain Banana) 108
- Musa rosacea (Pink Banana or Indian Banana)..108, 130
- Musa sumatrana (Sumatra Banana) 108
- Muscari (see Grape Hyacinth) 91, 132
- Myosotis (see Forget-me-not)..35, 65, 97, 101, 146
- Myrtle, True 60, 102, 141

N

- Nandina (Heavenly Bamboo) 101, 141
- Narcissus..89, 90, 101, 102, 134
  - Classification of 90
- Nasturtium 147
- Nasturtium, Climbing 151
- Natalplum Carissa (Carissa grandiflora) 104
- Natalplum, Dwarf (Carissa, var. minima)...105
- Nerine (see Guernsey Lily) 89, 132
- New Zealand Flax (Phormium) 107
- Nicotiana (see Tobacco, Flowering).....149
- NOVEMBER 37

O

- Oaks 52
- OCTOBER 34
- Oleander.....60, 119, 122, 141
- Ophiopogon (see Monkey Grass) 65, 112
- Orange 56, 141
- Orange, Satsuma 56, 141

Page

Orchid Tree (Bauhinia) 53, 141
Orchids 112
  Cattleya 112
  Spray 112
Oregano 114, 153
Ornamental Date (Phoenix canariensis) ...107
Ornithogalum (see Star-of-Bethlehem) ..91, 135
Osage Orange (Bois D'Arc) 52
Osmanthus (see Sweet Olive) 102, 143
Oxalis........65, 95, 101, 134

P

Pachysandra (Japanese Spurge) 65
Painted Copperleaf (Acalypha wilkesiana)...105
Pandorea 151
Pansy 30, 35, 147
Papaya (Carica papaya).55, 104
Parkinsonia (Ratama) 53, 122, 141
Parsley 114, 153
Passionflower 151
Paurotis wrighti (Saw-Cabbage Palm) 107
Peach, Flowering 53, 141
Peach, Fruiting 55, 56, 141
Peach, Wild (Cherry Laurel).....53, 141
Pear 56, 141
Pearlbush (Exochorda) 141
Pecans 55, 56
Penstemon 62, 147
Pentas 101, 141
Peppertree, Brazil (Schinus terebinthifolia) .105
Peppertree, California 141
Perennials...13, 36, 38, 97, 144
Periwinkle (Vinca) 65, 97, 101, 147
Persimmon 52, 56
Peruvian Daffodil (see Ismene).....89, 96, 133
Peruvian Lily (see Alstoemeria)....89, 130
Petunia 101, 148
Philadelphus (see Mockorange) 122, 141
Philodendron (Philodendron selloum)..106
Philodendron selloum (Philodendron) 106
Philodendrons 106, 110
Phlox 148
  Creeping 65
  Drummond 148
  Louisiana 97, 148
  Perennial 97, 101, 148

Page

Phoenix canariensis (Ornamental Date) 107
Phoenix reclinata (Senegal Date Palm) 107
Phormium (New Zealand Flax) 107
Photinia 122, 141
Phyllostachys nigra (Black Bamboo) 107
Physostegia (see False-Dragonhead) 146
Pieris japonica (Japanese Pieris) 105
Pine 57
Pine, Japanese 111
Pinks (Dianthus) 97, 148
Pistache 52
Pittosporum ..60, 101, 122, 141
PLANT NOMENCLATURE 128
Planter Box 108
Plants Which May be Grown in Water........113
Platycodon (see Balloon-Flower) 101, 144
Plum, Flowering 141
Plum, Fruiting 56, 142
Plum, Purpleleaf 52, 142
Plum, Thunderbird 142
Plum, Wild 53, 142
Plumbago 101, 122, 142
Plumbago, Yellow (see Thryallis) 143
Plumbago, Creeping....65, 142
Plumeria (Frangipani) alba, rubra.............106
Podocarpus 60
Poinciana (Bird of Paradise) 122, 142
Poinsettia 27, 104, 142
Poison Ivy 128
Polystichum falcatum (Holly Fern) 106, 152
Polystichum setosum ..106, 152
Pomegranate, Dwarf ...101, 111, 122, 142
Pomegranate, Fruiting.56, 60, 101, 122, 142
Poplars 52
Poppy 97, 148
Portulaca 97, 148
Pot Plants, Indoors........112
Potato Vine 151
Potted Plants 108, 110
Prickly pear 111
PROPAGATION 114
PRUNING 120, 122
Pygmaea Bamboo (Sasa Pygmaea) 107
Pyracantha (Firethorn) 60, 101, 142

Page

Q

Queen Anne's-lace 97, 148
Queen of the Night.......111
Quince, Japanese Flowering 60, 122, 142

R

Rain Lily (Cooperia)...89, 134
Rain Lily (Zephyranthes or Zephyr Lily) (see Zephyr Lily)....89, 101, 135
Raintree, Golden 53, 142
Rangoon Creeper 151
Ranunculus 95, 134
Raphiolepis indica (see Indian Hawthorn) 53, 105, 139
Ratama (see Parkinsonia) ...53, 122, 141
Redbud 53, 101, 122, 142
Redbud Dwarf 122, 142
Red-Flowered Yucca 135
Red Hot Poker Plant (see Kniphofia) 91, 133
Retinospora 57
Rhapis humilis (Slender Ladypalm) 107
Rice-Paper Plant (Aralia papyrifera) (Tetrapanax papyriferus) 104, 142
Ricinus (see Castor-bean)..145
Rockrose (cistus) 142
Rocket, Sweet 148
Rose-Acacia 142
Rosemary, Prostrate 102, 114, 153
ROSES 79
  Classification 84
  Cutting of Blooms....... 84
  Feeding 82
  List of 85, 86
  Mulching 82
  Pest Control 83
  Planting 81
  Preparation of Beds..... 79
  Pruning 83
  Watering 82

S

Sage, Desert 62, 142
Sage (see Salvia)......97, 148
Sage (salvia farinacea)..62, 148
Sage (salvia officinalis).114, 153
Sago Palm (Cycas revoluta) ...106, 107
St. Augustine Grass....... 49
St. John's-wort (Hypericum) 101, 143

Page
Saintpaulia (African Violet) ...111, 113
Salpiglossis 148
Salt Cedar (Tamarix) ..60, 62, 122, 143
Salvia officinalis (Sage) 114, 153
Salvia greggi 148
Salvia (Scarlet Sage)......148
Salvia (Blue Sage).....97, 148
Sansevieria 113, 134
Santolina (see Lavender Cotton) 140
Sarcococca humilis 105
Sasa Pygmaea (Pygmaea Bamboo) 107
Sassafras 52
Satsuma 56
Savory, Summer 114, 153
Savory, Winter 114, 153
Saw-Cabbage Palm (Paurotis Wrighti) 107
Saw Palmetto (Serenoa repens) 107
Scabiosa 101, 148
Schinus terebinthifolia (Brazil Peppertree) 105
Schizanthus (see Butterflyflower) 101, 144
Scilla (see squill)..91, 101, 135
Sedum 65, 111
Senegal Date Palm (Phoenix reclinata) 107
Senesa (see Desert Sage)... 62
Senna, Flowery, (see Cassia) 137
SEPTEMBER 31
Serenoa repens (Saw Palmetto) 107
SHADED GARDEN 99
Shell Flower (see Tigridia)....91, 94, 135
Shellflower Vine 151
Shrimp Plant 97, 101, 148
SHRUBS 60, 136
Silver-bell Tree 143
Silver Lace Vine..........151
Silverleaf Nightshade 62
Silvery Wormwood 62
Sisyrinchium (see Blue-eyed Grass) .91, 94, 130
Skimmia japonica (Japanese Skimmia) S. reevesiana 105
Sky Flower (see Thunbergia) 151
Slender Ladypalm (Rhapis humilis) 107
Snail-Vine 151
Snake Plant (see Sansevieria) ...113, 134
Snapdragon (Antirrhinum) .148

Page
Snowflake (Leucojum) 91, 134
Snow-in-Summer (see Cerastium) 145
Soil, Basic Composition ..44, 45
Soil, Essential Elements.... 45
Soil Testing 44, 45
SOILS AND SOIL IMPROVEMENT 43
Solandra guttata (Cup of Gold).........106
Spanish Dagger (see Yucca) .62, 91, 111, 135
Sparaxis 91, 94, 96, 135
Spathiphyllum 94, 113, 135
Spiderflower (cleome) 149
Spider Lily (Hymenocallis) 89, 135
Spirea 122, 143
Sprekelia (see Jacobean Lily) 89, 133
Sprengeri 152
Spruce 111
Squill (scilla) 91, 101, 135
Staghorn Fern 152
Star-of-Bethlehem (Ornithagalum) 91, 135
Stock 149
Stokesia 149
Strawberries 55, 56
Strawberry Begonia 65, 101
Strawflower 149
Strelitzia reginae (Bird-of-Paradise) ...106, 112, 135
Succulents 62, 111
Sumac 143
Summer Cypress 149
Summer Hyacinth (see Galtonia) 91, 131
Sunflower 149
Superphosphate 46
Sweet Alyssum 101, 144
Sweetgum 52
Sweet Olive (Osmanthus) 102, 143
Sweet Pea.........36, 64, 149
Sweetshrub (Calycanthus) 101, 143
Sweet-Sultan 149
Sweet William 149
Sycamore (American Plane Tree) 52

T

Tabernaemontana grandiflora (Carnation of India) T. coronaria 107
Tamarix (see Salt Cedar) 60, 122, 143
Tarragon 153
Tea Plant (Camellia Thea) .143

Page
Tetrapanax papyriferus (see Rice-paper Plant) ..104, 142
Texas Ebony 53, 138
Texas Umbrella (see Chinaberry) 51, 137
Thryallis (yellow Plumbago) 143
Thunbergia (Sky Flower)..151
Thyme 153
Tigridia (Shell Flower) ...91, 94, 135
Tithonia (Mexican Sunflower) ...149
Tobacco, Flowering (Nicotiana) 101, 149
Torch Lily (see Kniphofia) 91, 133
Torenia 97, 101, 149
Trachycarpus fortunei (Windmill Palm) 107
Trachycarpus martianus (Martius windmill) 107
Trachycarpus takil 107
Tradescantia (Wandering Jew) ...65, 113
Transvaal Daisy (see Gerbera) ...97, 98, 146
Tree Fern, Hawaiian.......152
Tree of Heaven (Ailanthus) 51
TREES 51
  Care of 52
  Coniferous Evergreens .. 57
  Flowering, List of....... 53
  Fruit 55
  Native 53
  Shade, List of.......... 51
  Transplanting 52
Triteleia (see Milla).......134
TROPICAL GARDEN ...104
Trumpetcreeper 152
Tuberose 16, 89, 102, 135
Tulbaghia 89, 135
Tulip 38, 91, 117, 135
Tulip Tree 53, 143
Tung Oil Tree........53, 143
Turk's Cap 143

U

Umbrella Plant (see Cyperus alternifolius) ...107

V

VEGETABLE GARDEN .113
Verbena 97, 102, 149
Viburnum ...60, 101, 122, 143
Vinca (see Periwinkle) .65, 97, 101, 147
VINES 62, 150
Viola 149
Violet 21, 33, 38, 65, 97, 101, 149

Page

Violets, African 111
Virginia Creeper 152
Vitex (see
  Chaste Tree) ...53, 122, 137

W

Walking Iris
  (see Marica) 94, 134
Wallflower 149
Wandering Jew
  (Tradescantia) 65, 113
Washingtonia filifera
  (Desert Palm) 107
Water-grown Plants 113
Water-Hyacinth 96, 135
WATERING.47, 21, 30, 36, 41
Waterlily 95, 135
Waterpoppy 96, 135
Watsonia 91, 94, 135

Page

Weavers-Broom 143
Weigela 122, 143
Whin (see Gorse) 138
Whittmani 152
Wild Olive (Cordia)...53, 143
Willow 52
  Flowering (Desert) ..53, 143
  Pussy 113, 143
Windmill Palm (see
  Trachycarpus fortunei) ..107
WINTER PROTECTION .122
Wisteria 36, 152
Woodbine (see
  Honeysuckle, Belgian)...150
Wood Fern 152

Y

Yaupon 60, 61, 143

Page

Yellow Plumbago
  (see Thyrallis) 143
Yesterday-today-and-
  tomorrow (see
  Brunfelsia) 136
Yew 57, 60
Yucca, Red flowered.......135
Yucca (Spanish
  Dagger) 62, 91, 111, 135

Z

Zamia (Zamia) 107
Zamia integrifolia
  (Coontie) 105
Zephyr Lily (Zephyranthes
  or Rain Lily)...89, 101, 135
Zephyranthes (see Zephyr
  or Rain Lily) ...89, 101, 135
Zinnia 149